AMERICAN

FABRICS

NUMBER SEVEN ★ 1948 ★ THREE DOLLARS A COPY

QUALITY CRAFTSMANSHIP STYLE

FORSTMANN

100% VIRGIN WOOL

©

Look for this label... it identifies the finest woolens in the world

FORSTMANN WOOLEN COMPANY
PASSAIC, N.J.

American Fabrics

. . . dedicated to the belief that Fashion begins with the Fabric . . .

that the American textile industry casts a major influence on the economic and social aspects of the world in which we live . . . that American textiledom has deservedly attained the world's pinnacle from which it can never be dislodged. To all who work within or with the industry this seventh volume of American Fabrics is offered as a measure of help, of service . . .

and, we hope, of inspiration.

American Fabrics is published quarterly by Reporter Publications, Incorporated, who are the publishers of Men's Reporter, Women's Reporter, Canadian Reporter, Canadian Women's Reporter, National Gold Book Directory, the British Gold Book and Excellence.

Subscription Price, Ten dollars per year: Single issue, Three dollars.
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Board of Editors: Dr. George E. Linton, Nancy Copeland, Pierre Sillan, Tobé, Cora Carlyle, Howard Ketcham, Cecil Lubell, Elsie Marshall, Lee Levintow. Art Editors: Harry Hering, Gretchen Williams, James Benson. Circulation Manager: Jack Rayman. Business Manager: H. G. Mitchell. Advertising Manager: Joseph C. Stein. Vice President: Mark J. Sloman. Ass't to Publisher: H. Z. Heuston. Publisher: William C. Segal.

AMERICAN FABRICS, Empire State Bldg., New York 1, New York

Number Seven

3rd Quarter 1948

Fashion Begins with the Fabric

American Fabrics

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Look for "Botany" Brand

You'll find it on Men's and Women's Wear Fabrics •
Men's Ties • Mufflers • Sportswear • Socks •
Beachwear • "Botany" Brand 500 Men's Clothing •
Men's and Women's Robes • No-Dye-Lot Yarns •
Certified Fabrics for Home Sewing •
(Certified by Botany Laboratories) •
Lanolin Cosmetics • "Dunk" for washing woolens.

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LORRAINE MANUFACTURING COMPANY, INC.
261 FIFTH AVENUE, NEW YORK 16, N. Y.

Suit by Whitley Tailleurs

*REG. U. S. PAT. OFF.

as appearing in the August MADEMOISELLE

Casandra unfolds the sequence of a basic Fall costume
Casandra smooth soothsayer of Fall festivities from SHIRLEY FABRICS, wraps you up in shining drama. This lustrous rayon and cotton bengaline lends varied scope to the basic career of your wardrobe... in milky pastels or burnished darks.
Shirley Fabrics Corp.
1400 Broadway, N.Y.18
Shirley Fabrics

Town & Country, May, 1948

Vogue and Harper's Bazaar, March, 1948

Mademoiselle, Charm and Seventeen, March, 1948

Charm and Glamour, February, 1948

Ponemah

THE MILL BEHIND MANY FAMOUS FASHION FABRICS

Glamour, October, 1947

The New Yorker, April 3, 1948

Vogue, Harper's Bazaar, Glamour, April, 1948

Town & Country, April, 1948

The Californian, November, 1947

McCall Pattern Book, Summer, 1948

Charm and Mademoiselle, January, 1948

Charm, December, 1947

When you think of Ponemah think of a creative mill, one responsible for many of the most extraordinary fabric developments of the past few years.

Headliners all, these fine fabrics include such famous names as

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PONEMAH COTTON TAFFETA, PONEMAH SWISH-SHEER,

PONEMAH TISSUE COTTON, PONEMAH WOVEN STRIPE, and PONFILA®.

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McCAMPBELL & COMPANY • FORTY WORTH STREET • NEW YORK

SELLING AGENTS FOR Ponemah ***MILLS***

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Vogue Pattern Book, April-May, 1948

The Californian, March, 1948

Esquire, June, 1948

Mademoiselle, February, 1948

A Labtex Fabric

a: Two-piece dressmaker by Bedford of New York. In Tegra™—a Labtex spun rayon fabric. b: Dashing bolero slack suit by Tabak of California. In P-38™—a Labtex heavy-weight spun rayon gabardine fabric. c: Daytime casual by Marcy Lee of Dallas. In Petti-check—a Labtex novelty spun rayon fabric.

in Caravan Colors

THERE'S

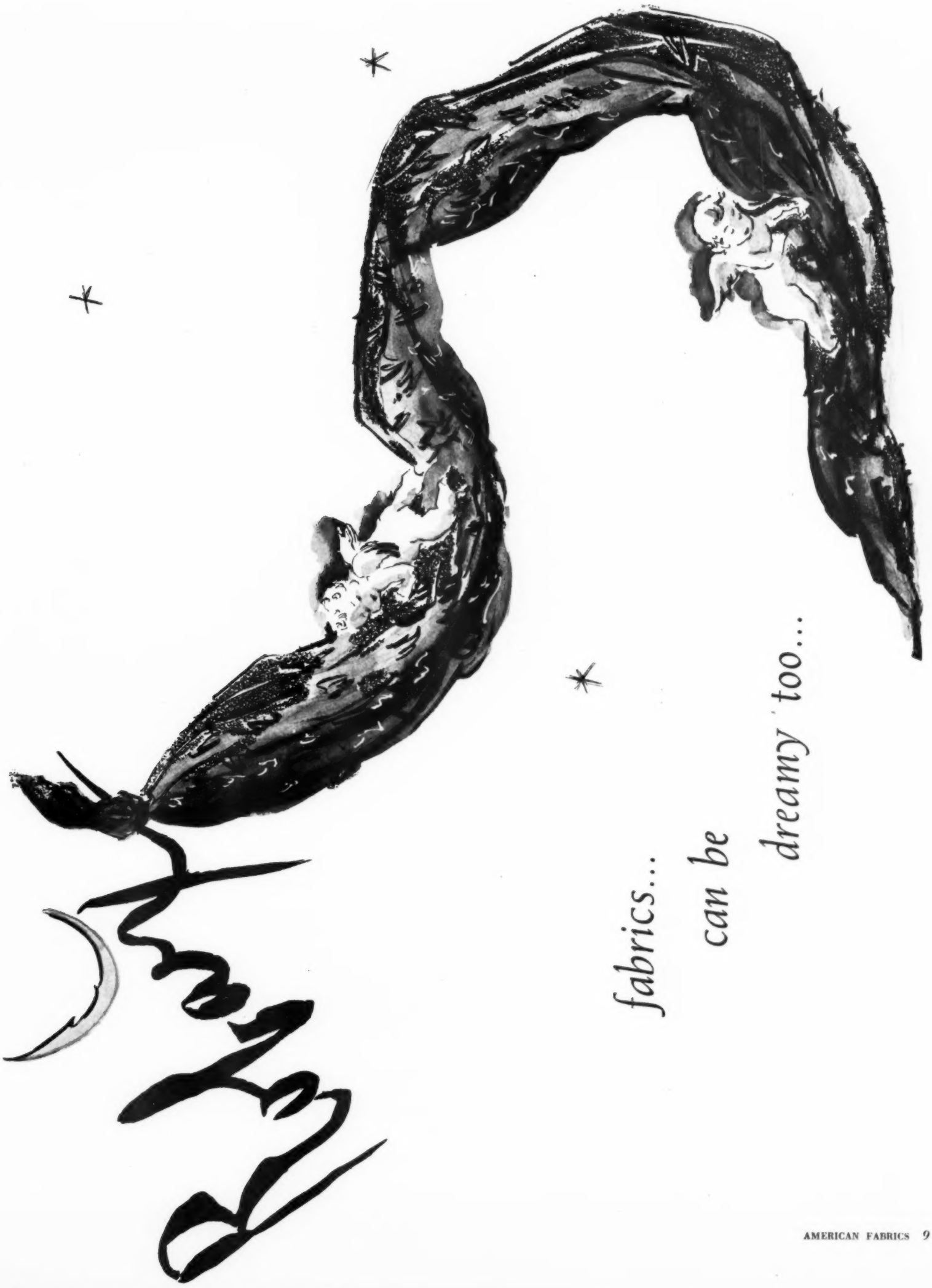
A Labtex Fabric

for every fashion
for women and men
ready-to-wear or by-the-yard.
Look for the label . . .

LABTEX FABRICS
New York 18, N. Y.

ATLANTA • BOSTON • CHICAGO • CLEVELAND • DALLAS • LOS ANGELES • PHILADELPHIA • SAN FRANCISCO • ST. LOUIS
• T. M. Reg.

Music: Edward Tatnall Canby



fabrics...

can be

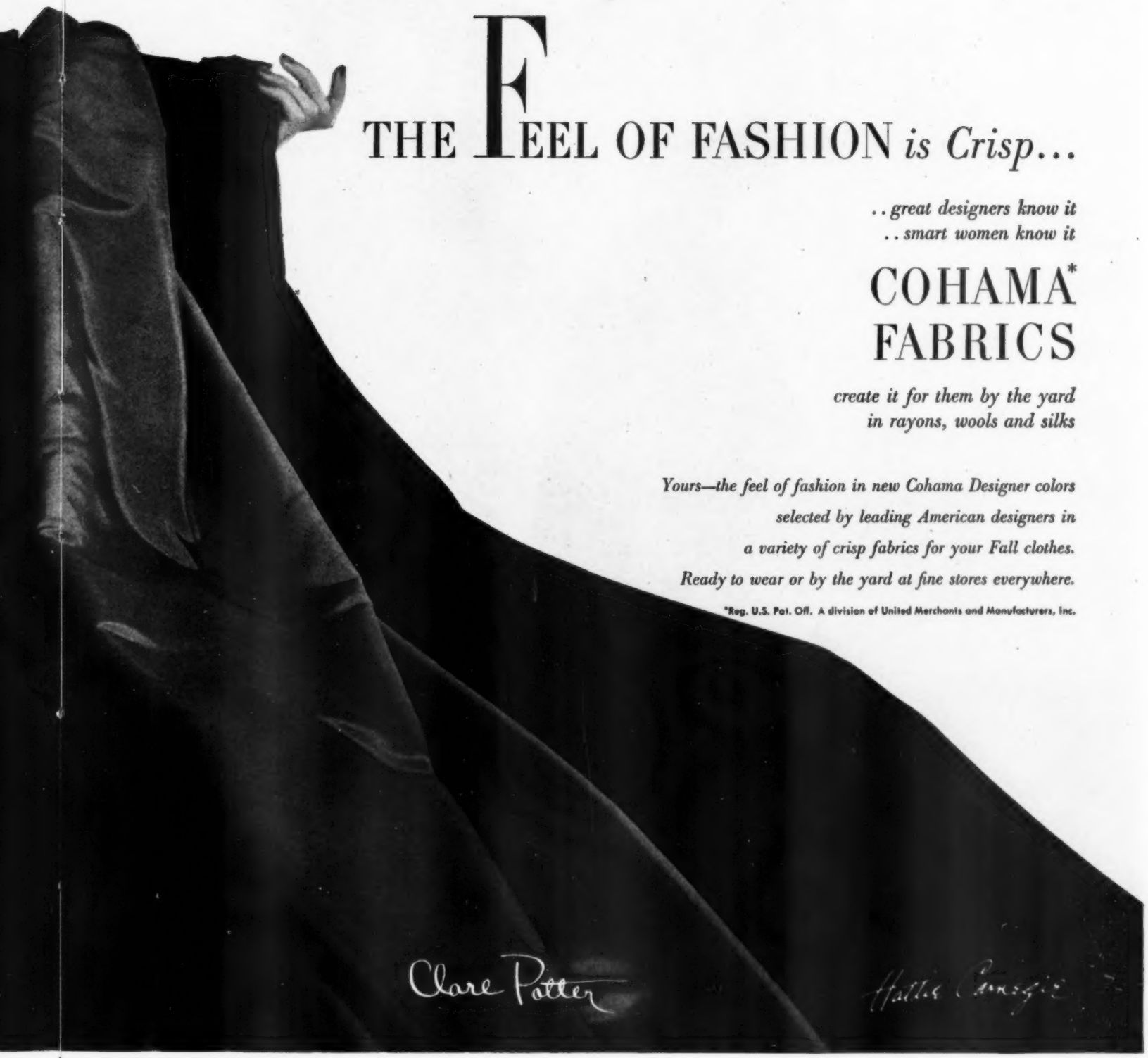
dreamy too...

John Rawlings

Louise Barnes Gallagher

Philip Mangone

Jo Copeland



THE FEEL OF FASHION *is Crisp...*

..great designers know it
..smart women know it

COHAMA* FABRICS

create it for them by the yard
in rayons, wools and silks

Yours—the feel of fashion in new Cohama Designer colors
selected by leading American designers in
a variety of crisp fabrics for your Fall clothes.
Ready to wear or by the yard at fine stores everywhere.

*Reg. U.S. Pat. Off. A division of United Merchants and Manufacturers, Inc.

FRAMES BY GENE DAVIS

RAWLINGS

Adele Simpson's charming dress for daylight dining in a wonderful new **Cotton Taffeta** from the Wesley Simpson Custom Fabrics collection. This exciting new fabric Spoven by Ponemah has a soft iridescent bloom and a crisp silky texture—is unbelievably lovely in rich dark colors.

WESLEY SIMPSON

Scarfs, Dress and Decorative Fabrics 215 West 40th St., New York 18, N. Y.

Another **Wesley Simpson** *first*—*"Rustler"*—the original cotton taffeta that will be featured by top designers in their 1949 resort and spring collections.

By land or by sea . . . by day or night . . . the little topper is big fashion news. Of fine cloth in luscious spring and summer colors by Hockanum . . . makers of woolens of beauty, quality and lasting wear.

HOCKANUM
Woolens

M. T. STEVENS & SONS COMPANY, DIVISION OF J. P. STEVENS & CO., INC., EMPIRE STATE BUILDING, N. Y. 1

Weavers for 62 Years

The romance of the West... the charm of the South... the sophistication of the East... the drive of the North... Hess-Goldsmith fabrics reflect individually the influences of each section... but their collective appeal is nation-wide.

REG. APP. FOR

HESS, GOLDSMITH & CO., INC.

1400 Broadway, New York 18, N. Y.

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COLORS in Hoffman's

great, new development...

suiting, coating and

dress-weight woolens that

are color-coordinated!

Wondrous Gold Rush Centennial

shades. Mixable, matchable

and virgin wool, so easy to sew.

Ask for "California-by-the-yard,"

exclusive at one fine store in

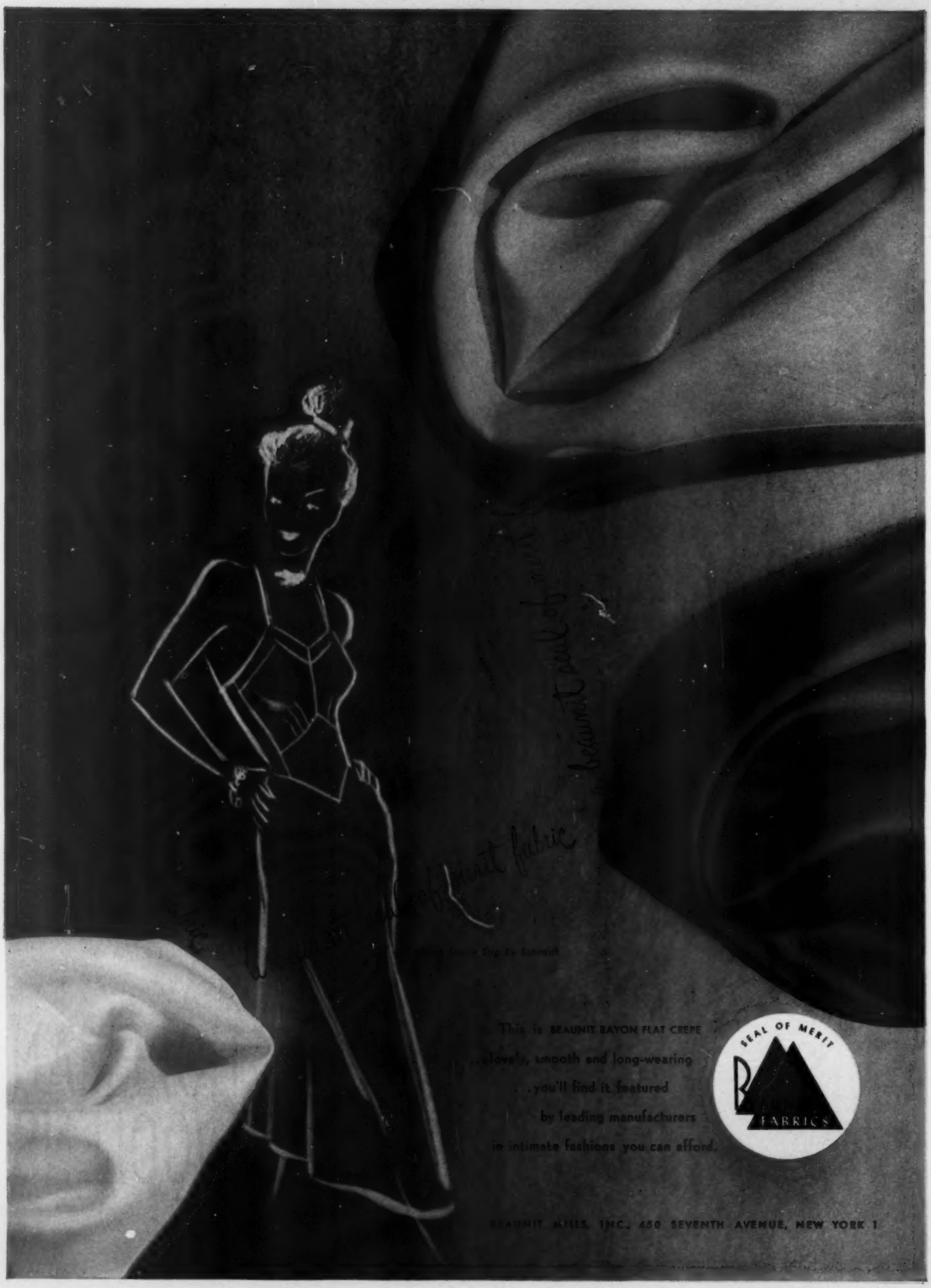
most cities or write

for free sample folder.

HOFFMAN CALIFORNIA WOOLENS

South Los Angeles Street • Los Angeles 14

ONE OF A SERIES OF FULL-COLOR ADVERTISEMENTS NOW APPEARING IN EVERY IMPORTANT NATIONAL FASHION MAGAZINE


This is BEAUNIT RAYON FLAT CREPE
. . lovely, smooth and long-wearing
. . . you'll find it featured
by leading manufacturers
in intimate fashions you can afford.
SEAL OF MERIT
FABRICS
BEAUNIT MILLS, INC., 450 SEVENTH AVENUE, NEW YORK 1

Have you seen SARAN? Fresh, rich shining color that is built all the way through each thread. Intriguing weaves and patterns to flatter the home in fabrics of style and distinction. Amazing wearability that resists scuffing, abrasion, sagging, stretching—durability that serves for years. And practical, too! Ordinary dirt is wiped off in a jiffy. Saran is proof against moisture, moths, mildew and chemicals. Look for saran when you look for fabrics that are beautiful, durable and practical. Saran is a *basically different* textile . . . man-made to fulfill the needs of modern living with pliant strength, *built-in* color and utmost practicality.

Plastics Division, Dept. SF-11, **THE DOW CHEMICAL COMPANY,** *Midland, Michigan*

BE PROTECTED

DURING the war, The Springs Cotton Mills developed a special cotton fabric which was woven to be water repellent and wind resistant, and then made into ski pants and Arctic uniforms.

This fabric is now available to the false bottom and bust bucket business, and if you want protection from a sudden draft on a windy corner, look for the SPRINGMAID label on the bottom of your trademark.

Known to the trade as *KERBRA* combed broadcloth, this fabric is now finished 37″ wide, count approximately 152 x 68, and weight of 3.30. The fabric is sold in peach, blush, nude, and white by

SPRINGS MILLS

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Chicago Dallas Los Angeles

Coming soon: SPRINGMAID *sheets, pillowcases, diapers, broadcloth, poplins and tubings.*

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Stabilized for minimum shrinkage . . . never to lose the style in the suds. Completing the excellence of the cloth, Pedilov crepe is woven of new Narco ® rayon yarn, *with more than one filament per denier . . .* priced in accord with consumer demand in lingerie • negligees • blouses • children's dresses • infants' wear.

Nylon, Rayon and Spun Fabrics

PEDIGREE FABRICS, *inc.*

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when NEW yarns and NEW ideas make possible NEW and BETTER fabrics . . . look to PEDIGREE

1873—courtesy Costume Institute
Metropolitan Museum of Art

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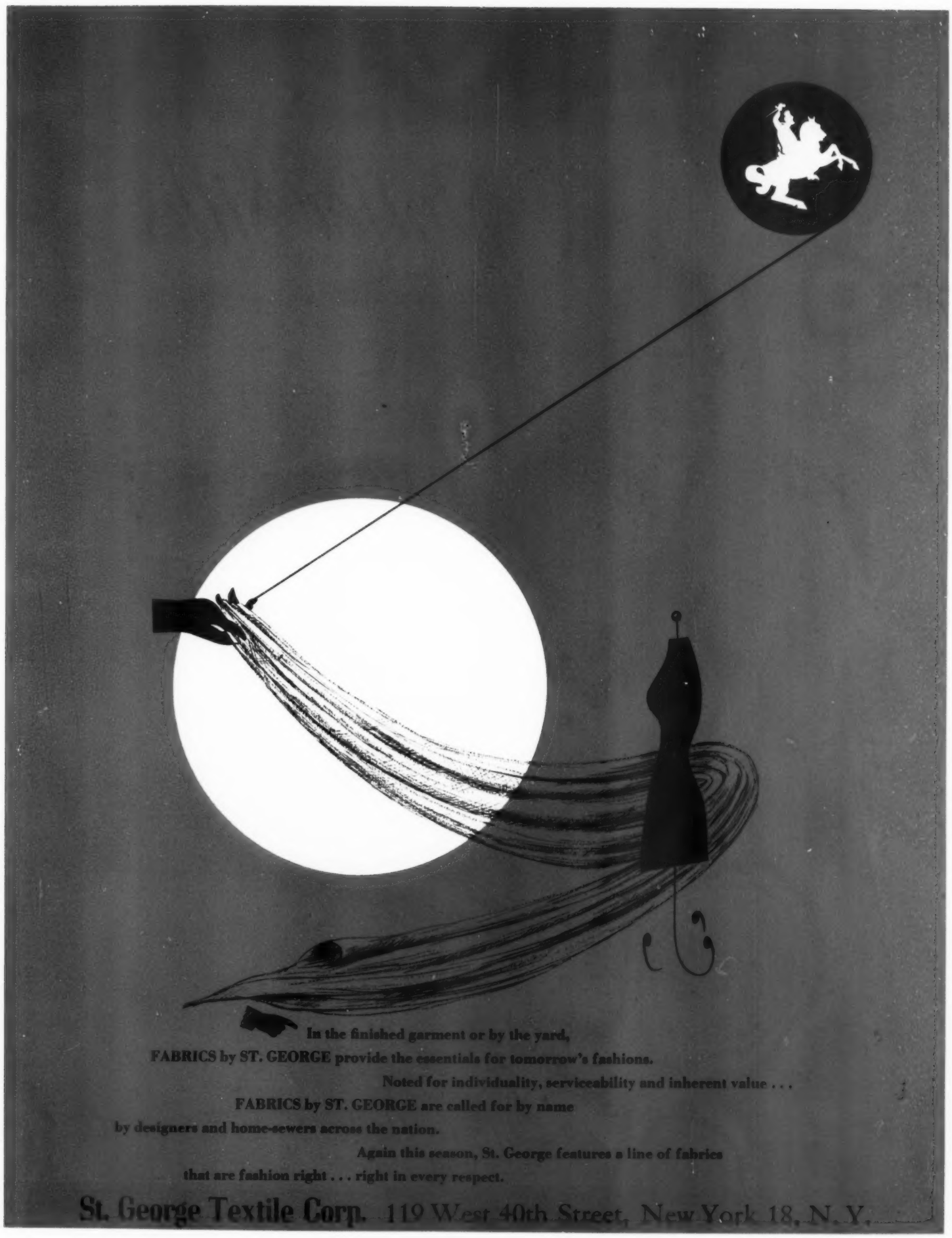
1948—Dress by Caradele

75 years of leadership in fashions for smart women of all ages.

SCHIFFLI EMBROIDERY

Embroidery Manufacturers Bureau, Union City, N.J.



In the finished garment or by the yard,

FABRICS by ST. GEORGE provide the essentials for tomorrow's fashions.

Noted for individuality, serviceability and inherent value . . .

FABRICS by ST. GEORGE are called for by name

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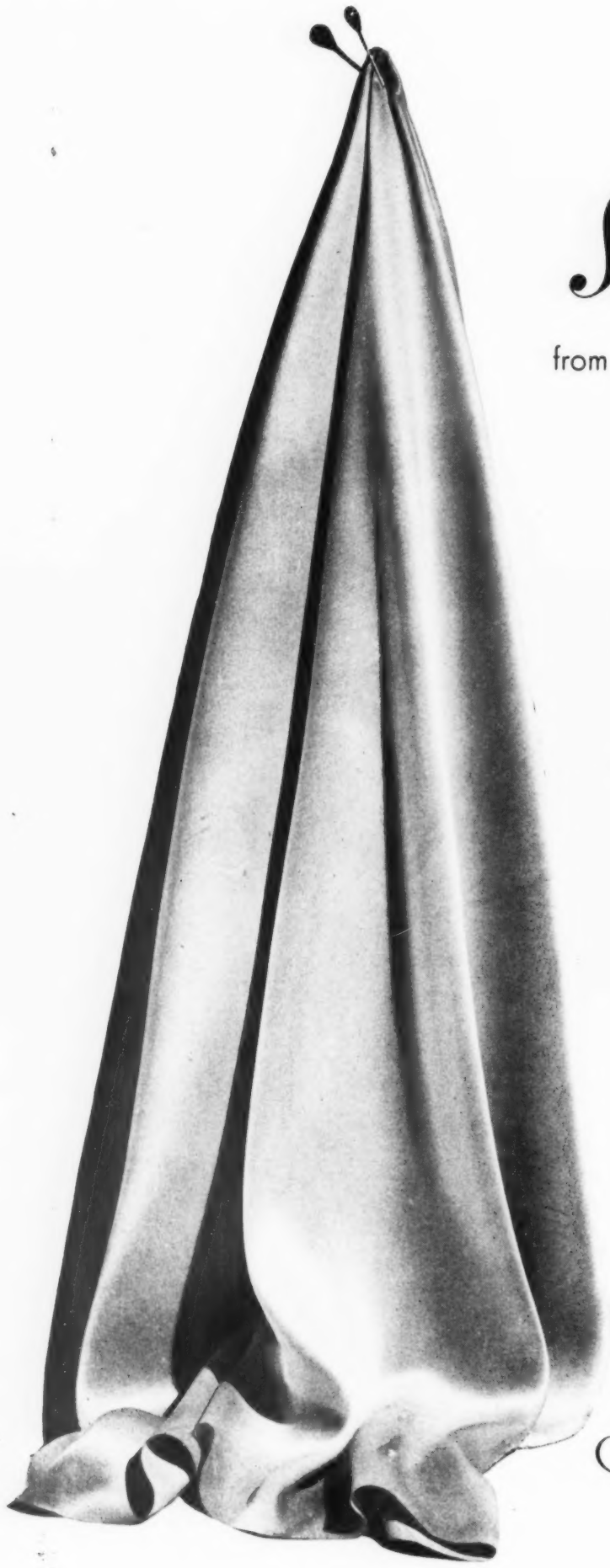
Again this season, St. George features a line of fabrics

that are fashion right . . . right in every respect.

St. George Textile Corp. 119 West 40th Street, New York 18, N. Y.



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from sources of joyous inspiration . . .

a repertoire of glorious design

by Stotter, *Inc.* 1441 Broadway, New York 18, N.Y.

the fashion choice of America's leading couturiers

. . . a preference in better fabric departments

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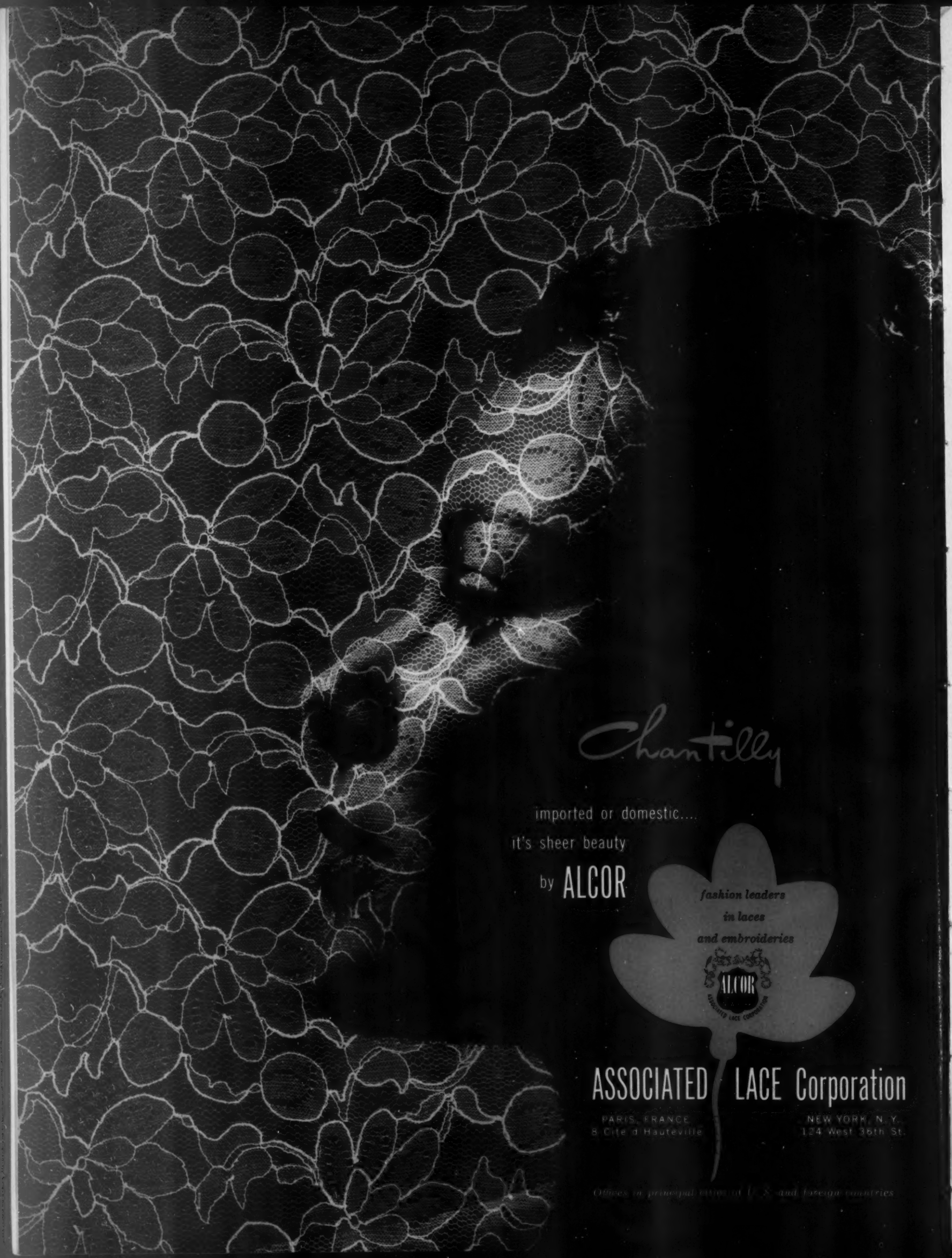
UNIDURE.® THE PERMANENT CREASE-RESISTANT FINISH. educates a fabric in the basic principles of good-grooming. UNIDURE fabrics retain their wrinkle-resistant ways after repeated dry-cleaning or laundering... cut the high cost of learning by conserving the shape of your wardrobe... preserving your peace of mind.

THE UNITED PIECE DYE WORKS, 132 Madison Ave., New York 16, N. Y. • Lodi, N. J. • Los Angeles, Calif.

AS ADVERTISED IN VOGUE, VOGUE PATTERN BOOK AND McCALL'S PATTERN BOOK.


Chantilly
imported or domestic....
it's sheer beauty
by ALCOR
fashion leaders
in laces
and embroideries
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ASSOCIATED LACE CORPORATION
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WITH FINE GOLD-ROSE FABRICS ALL IN A ROW

GORO-TISSUE
a tissue faille

...and that's how our garden grows—with prize-winning fabrics all in a row. Here are three of our Gold-Rose fabrics that blend happily with fine fashions—that retain full and fresh bloom as insured by the COLORSURE process against light, acid, perspiration and gas.

...and we are always planting new fabric ideas—plotting further fabric growth so that you can:

START A FINER FASHION WITH A GOLD-ROSE FABRIC

GABADERO
a rayon gabardine

MATAVA
a mossy crepe

GOLD-ROSE FABRICS CORP. • 1441 BROADWAY, NEW YORK 18 • S. H. GOLDMAN

MILLIONS WILL SEE SHAMOKIN 100% WOOL WORSTEDS

featured this fall in advertisements like these...in editorials...on the covers of Vogue and Mademoiselle ...on the women's pages of local newspapers throughout the country...on television and on radio.

Carolyn Schnurer

Available at Best & Co.

and all its branches.

Also at better stores

throughout the country.

Luggage by Mark Cross

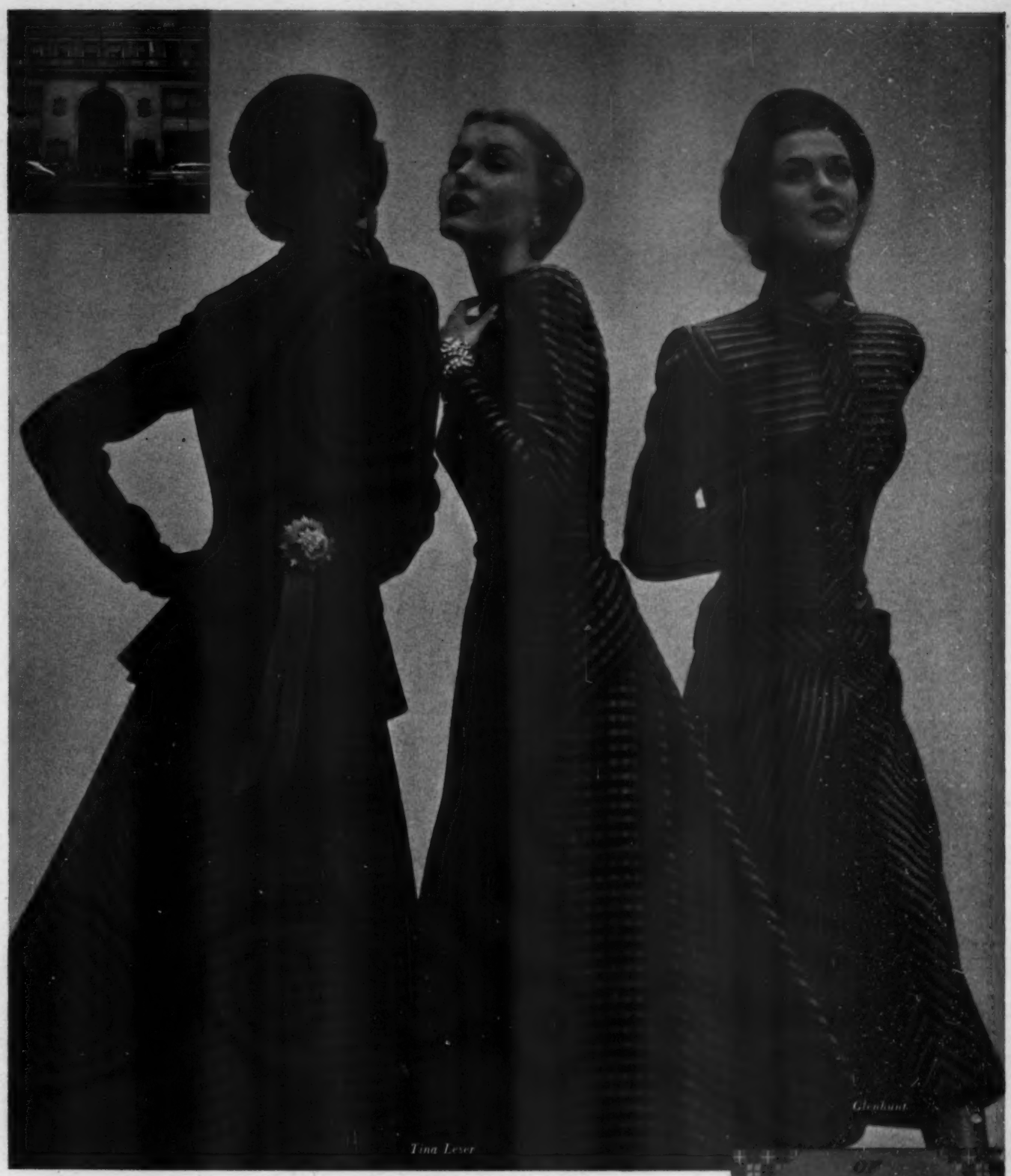
SHAMOKIN WOOLEN MILLS, Inc., 450 Seventh Avenue, New York 1, N. Y.

Polly Pigtails
August 1948

Parents' Magazine
August 1948

Mademoiselle
September 1948

Calling All Girls
August 1948

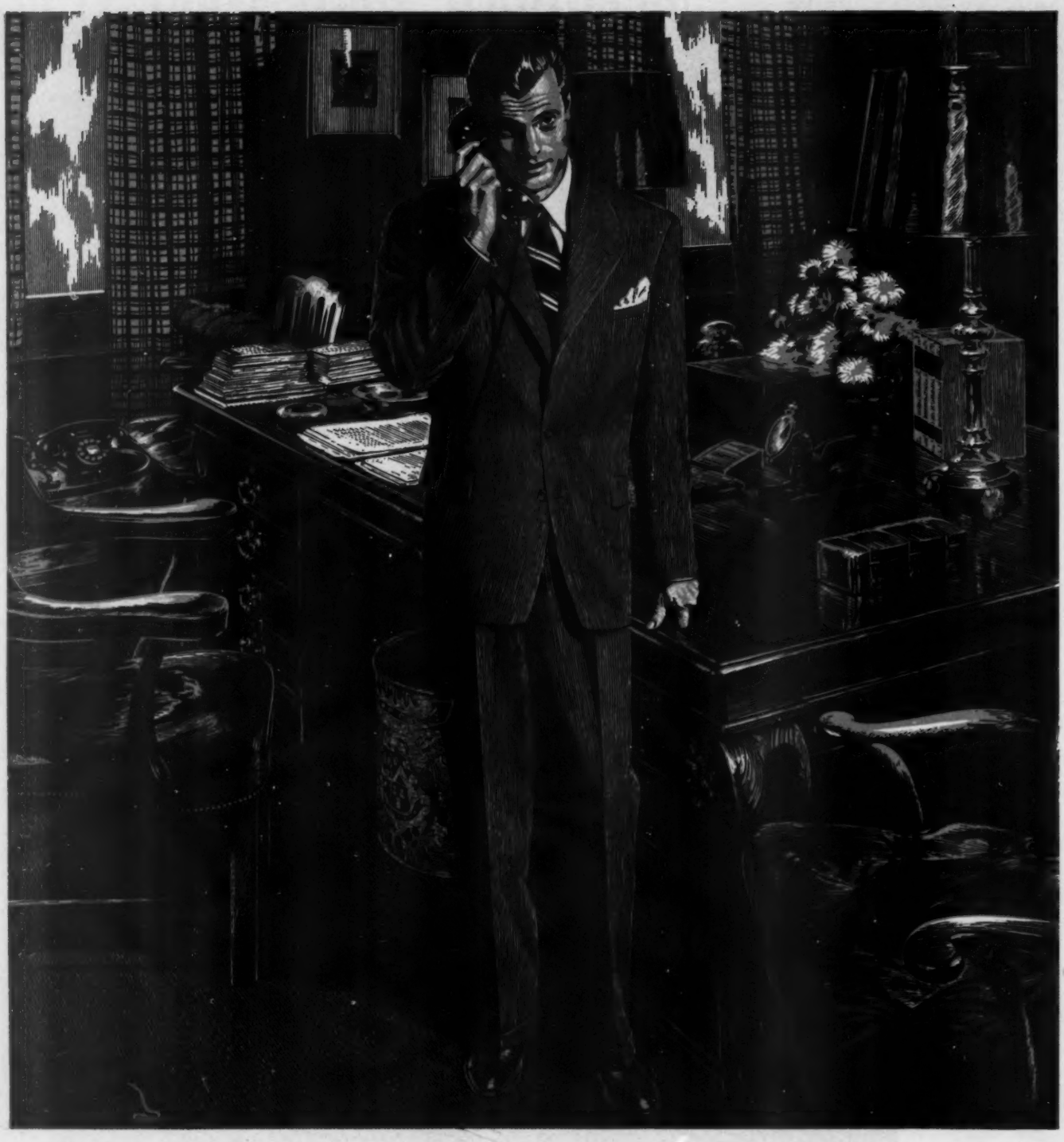


Available at Lord & Taylor
And better stores
Throughout the country.

SHAMOKIN WOOLEN MILLS, Inc., 450 Seventh Avenue, New York 1, N. Y.

Harper's Bazaar
September 1948

For further information—write to: Shamokin Woolen Mills, Inc. 450 Seventh Avenue, New York, New York



CYRIL JOHNSON COVERT

"The fabric that started the covert vogue"

Preference for Cyril Johnson Range 134 Covert Suiting is the natural result of *visible* evidence of *quality*, *proved* excellence in *service*.

The Cyril Johnson Woolen Company, Stafford Springs, Connecticut.

Selling Agent*: *Newell Textile Sales Co., Inc., 51 Madison Avenue, New York 13, N. Y.

second nature to the ultra elegant . . .

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A PRINT ORIGINATION BY Frankly Fabrics

Mastercraft

the impact of fashion in print

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RENOIR—a name synonymous with artistry in fabric and color harmony . . .
pure dye silk prints and rayons in irresistible colors and patterns to be translated
into the contemporary Spring mood by America's leading designers . . . for
cruise wear, exciting new fabrics especially conceived for the elegance and
luxury of a travel collection . . . masterpieces all in the art of fabric creation

RENOIR FABRICS, INC. • 1400 BROADWAY • NEW YORK 18, N. Y.

Distinctive Fashion Embroideries

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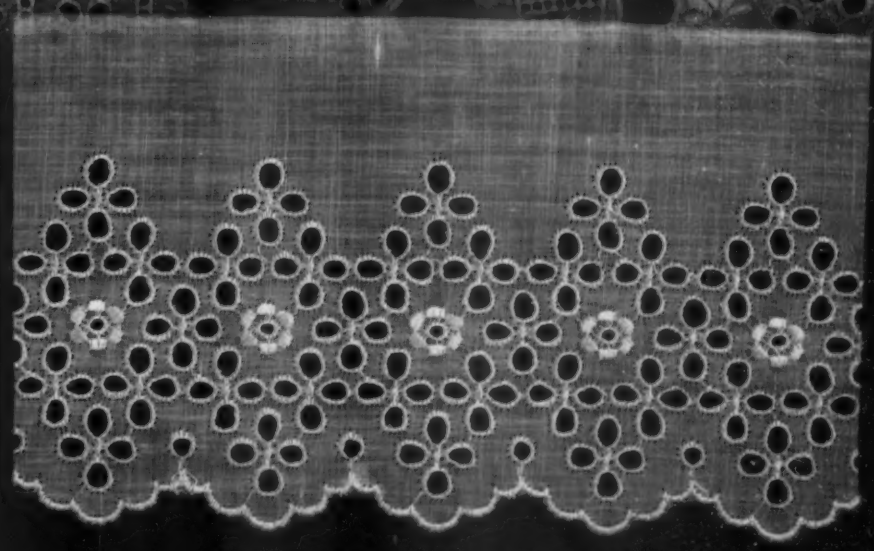
COMPANY, INC.
405 35th STREET
UNION CITY, NEW JERSEY
PEnnsylvania 6-3658



New permanent finish process which will withstand 30 washings without starching.

LARGEST MANUFACTURERS OF LACES AND EMBROIDERIES

Vel-de-Lux . . . a *washable* rayon and silk velvet . . .
an *exclusive* Wimpfheimer fabric achievement . . .
provides the perfect background for the beauty of
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Starring in Independent Artists' new picture
"The Velvet Touch"
an R K O Radio Release
A. WIMPFHEIMER & BRO., Inc.
Empire State Building, New York, N. Y.
The gown worn by Miss Russell is featured by:
Halle Bros., Cleveland
J. P. Allen & Co., Atlanta
Tailored Woman, New York

it takes the long pull test

SANCO 400 FINISH

More and more women are learning how to buy cautiously, carefully—how to buy for the long pull ahead. They're up on fabrics, textures, wearability and value-ability. They know what they want, and insist on it. Prove to these women that a fabric is finished to insure its lasting beauty, give extra service and YOU'VE made a sale! On plain fabrics as well as printed, SANCO 400 FINISH adds those features to fabric that mean increased value . . . increased sales!

SANCO 400 FINISH means:

- **crease resistance that wins customer interest**
- **better durability that appeals to the customer's good sense**
- **increased tensile strength that insures longer wear**
- **a more attractive fabric that increases sales**

SANCO PIECE DYE WORKS INC., PHILLIPSBURG, N.J.

DYEING • PRINTING • FINISHING

"Originators of the famous SANCO 400 and RAYLIN finishes."

Leading designers and manufacturers are featuring...
Draper's
Doeskin
in their
Fall Outercoat
Lines
Write for list
of manufacturers
featuring
Draper's
Doeskin.
Selling Agent: Newell Textile Sales Co., Inc.
51 Madison Avenue, New York 10, N.Y.

foreman's famous cavalier

CAVALIER—
a supple tissue faille
woven with Enka Rayon.
Fashion right for the new draped silhouette.
In an eye-filling array of
thirty extravagantly beautiful shades.
Accessories and Vogue Pattern Dress #453
in Red Tortoise,
an exciting new color for Fall.

at quality stores in ready-to-wear or by the yard

foreman co., inc., 1412 BROADWAY, NEW YORK 18, N. Y.

...at her marriage here to Martin L. Perry, the bride wore a gown of Faconné. The marriage of Miss Walton, daughter of Mr. & Mrs. J. Harold Walton, of New York City, to Martin L. Perry, son of Mr. & Mrs. David Perry, of Elkins Park, Pennsylvania, took place last night at the Waldorf-Astoria. Escorted by her father... the bride wore Faconné.
...and the bride wore
Famous Faconné
a martin weiner quality fabric

made of dupont acetate rayon and rayon yarn

the beauty of its lace-like design on design evokes instant acceptance from the Bride-to-be . . . here is a fabric she will select not only with joy, but with confidence . . knowing that its quality assures the heirloom loveliness she seeks . . . truly Famous Faconné merits the acceptance it enjoys at all Bridal Fabrics counters . .

A generation of integration • printed rayon fabrics exclusively • **Martin Weiner Company • 1441 Broadway** • New York 18

Lippitt

All-Worsted

*Twillardine

The lustrous fabric with the superb finish

FINE FABRICS FOR FINE FASHIONS

*Tr. Mark Reg.

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California
Original
of
Lippitt
"Twillardine"

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NEW YORK: 51 Madison Ave. BOSTON: 115 Chauncy St.
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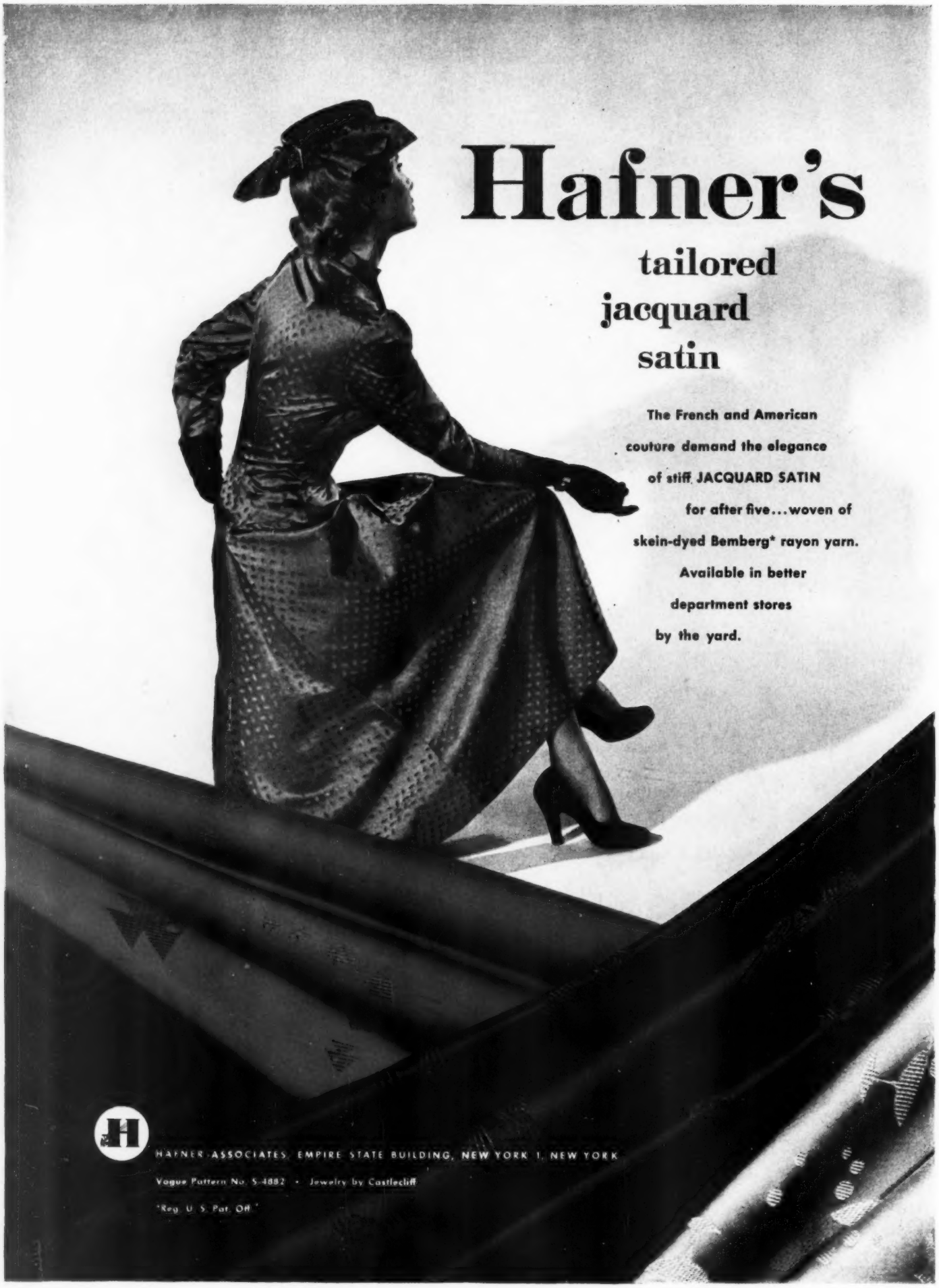
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tailored
jacquard
satin
The French and American
couture demand the elegance
of stiff JACQUARD SATIN
for after five...woven of
skein-dyed Bemberg* rayon yarn.
Available in better
department stores
by the yard.
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Vogue Pattern No. S-4882 • Jewelry by Castlecliff
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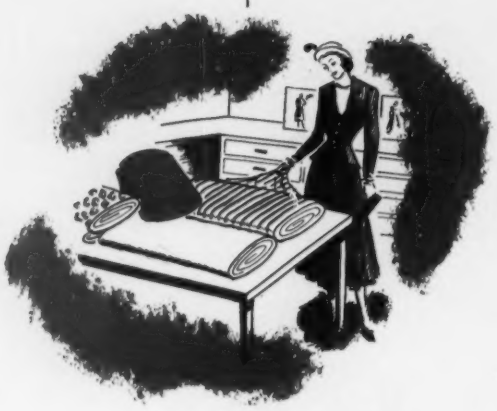
"Fine fabrics are the
foundation of fashion"

Designed by Adele Simpson in
Juilliard's St. Regis Suiting

Juilliard
100% VIRGIN WOOL

A. D. Juilliard & CO., Inc.
40 West 40th St., New York



WHAT DO WOMEN MAKE with the fabrics you sell? . . . How many dresses . . . blouses . . . play suits . . . skirts . . . suits . . . coats . . . slacks . . . and other items? And how much cotton, rayon, and wool fabric is used for each type of garment?

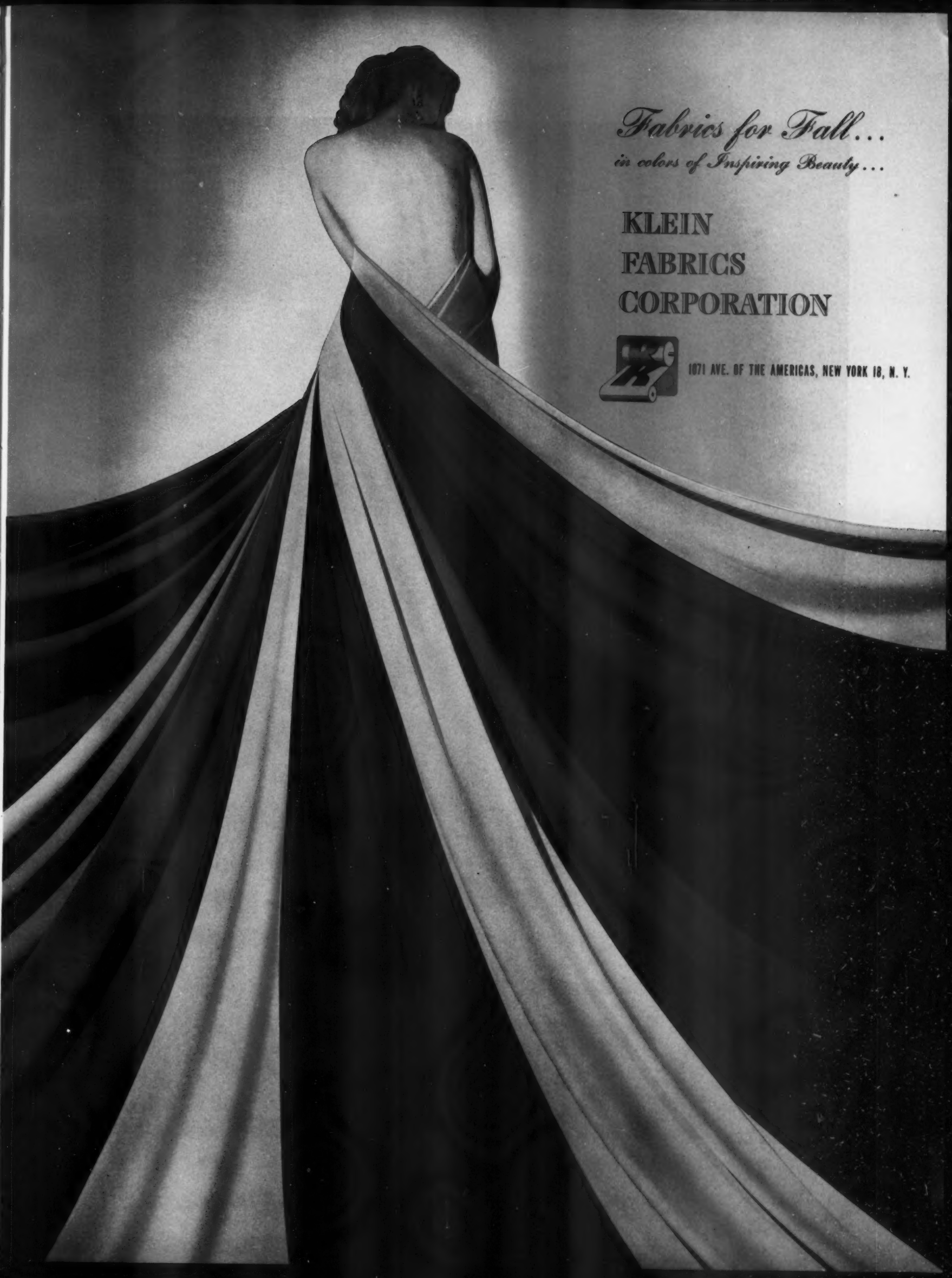
In "The Woman Who Sews" you will find surprising answers to guide you in merchandising and promoting your department. This new 60-page impartial survey brings together and evaluates for the first time all key factors affecting your fabric and pattern sales.

To assure the accuracy of this comprehensive and unique study, twenty-four representative department stores and 10,000 of their customers contributed their experience. Send now for your copy of "The Woman Who Sews."

McCall **Printed Patterns**

. . . Build Store Traffic

McCALL CORPORATION • 230 PARK AVENUE • NEW YORK 17, NEW YORK


Fabrics for Fall...
in colors of Inspiring Beauty...
KLEIN
FABRICS
CORPORATION
1071 AVE. OF THE AMERICAS, NEW YORK 18, N. Y.

All that glitters...

is pure sorcery in Verney's treasure trove of metallics. Subtle alchemy in formal fabrics of timeless splendor... that whisper again of crystal-lit ballrooms... of the Renaissance grandeur of Fall's opening-night fashions.

VERNEY FABRICS CORPORATION 1410 Broadway, New York 18, N. Y.

Gown by Ceil Chapman Pearls by La Tausca

first came the wool . . .

STRONG HEWAT & CO. INC.

then came the yarn . . .

long, fine fibers bathed in deep, rich dyes . . . artfully drawn

and twisted into solid, resilient yarn. Yarn spun with superb craftsmanship,

to be woven into soft, supple woolens . . . of a durability and excellence maintained

over half a century in exclusive Strong, Hewat Virgin Wool Fabrics.

STRONG, HEWAT & CO., 51 MADISON AVENUE, NEW YORK 10 • MILLS AT NORTH ADAMS, MASSACHUSETTS

read what a california agency says happened when a los angeles dress manufacturer ran six advertisements in WOMEN'S REPORTER

Edwin Sullivan

ADVERTISING

141 SOUTH ROBERTSON BOULEVARD • LOS ANGELES 36 CALIFORNIA • PHONE: CR 5-4919

June 3, 1948

"Bud" Davenport
WOMEN'S REPORTER
Empire State Bldg.
New York 1, N.Y.

Dear Mr. Davenport:

Bravo and vive la WOMEN'S REPORTER!

Perhaps it isn't perfectly ethical to mention, but damned if I can help shouting about the results of an advertising experiment this office has just completed with one of our accounts.

The facts are simply -- and wonderfully -- these:

The account -- a California dress manufacturer of relatively moderate advertising budget -- came into our offices for advertising counsel and was advised to run solidly, for at least six months, in your publication.

The account agreed, reluctantly.

Further, this office advised the account to run each ad as a full bleed page ad.

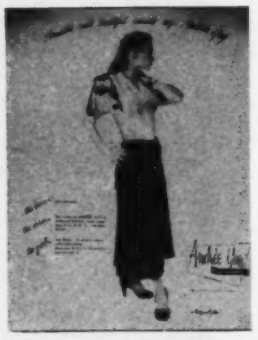
The account agreed, but more reluctantly.

When the account came into this office it was shipping less than $20,000. per month. Worse, the account had no sales force whatsoever!

The six-month period has just elapsed. (Remember, this account used no other advertising medium other than the W'sR!) And -- here's the pay-off:

The same account is shipping over $80,000. per month -- shipping to top specialty and department stores in America, So, America, Canada, the Phillipine and Hawaiin Islands. Speaks for itself?

Respectfully,
Edwin Sullivan



The only national trade magazine for the fashion industries—reaching 15,000 of the important buyers in the best stores of America. Women's Reporter can help you to get national distribution for your product—and at a small cost. Let us tell you how—and how much.

WOMEN'S REPORTER • EMPIRE STATE BLDG., NEW YORK 1, N. Y. TEL. WISCONSIN 7-2790

another outstanding American designer

VERA MAXWELL

endorses

SAG-NO-MOR* worsted-wool jersey

BY Wyner

"Wyner's
Sag-No-Mor*
worsted-wool jersey
is jersey at its best"
says VERA MAXWELL,
pictured here with her newest autumn
inspiration in
superlative Wyner jersey

HOME DRESSMAKERS,
as well as
famous-name designers,
prefer Wyner SAG-NO-MOR*
worsted-wool jersey...
for here is assurance of beauty
in the finished fashion...shape
insurance, textural appeal, perfect drape...
quality so *fine* it is unmistakably

"JERSEY AT ITS BEST"

I. A. Wyner & Co., Inc., 1441 Broadway, New York 18

**reg. U. S. pat.*

Lankenau plays up plaids..

Plaids . . that's the tune that fashion will dance to this season. Customers everywhere have sent a call to the clans... LANKENAU answers with plaid the way they want it! Bright...colorful...exciting...spiced with authentic tartan flavor...packed with a knack for any designing plans. It cuts and shapes... pleats and drapes . . . yet has the sterner stuff for an active life. For the sake of the line you make look to LANKENAU for plaids with a purpose!

LANKENAU COMPANY, INC.
1450 BROADWAY
NEW YORK 18, N.Y.

ART IN FABRICS
Lankenau

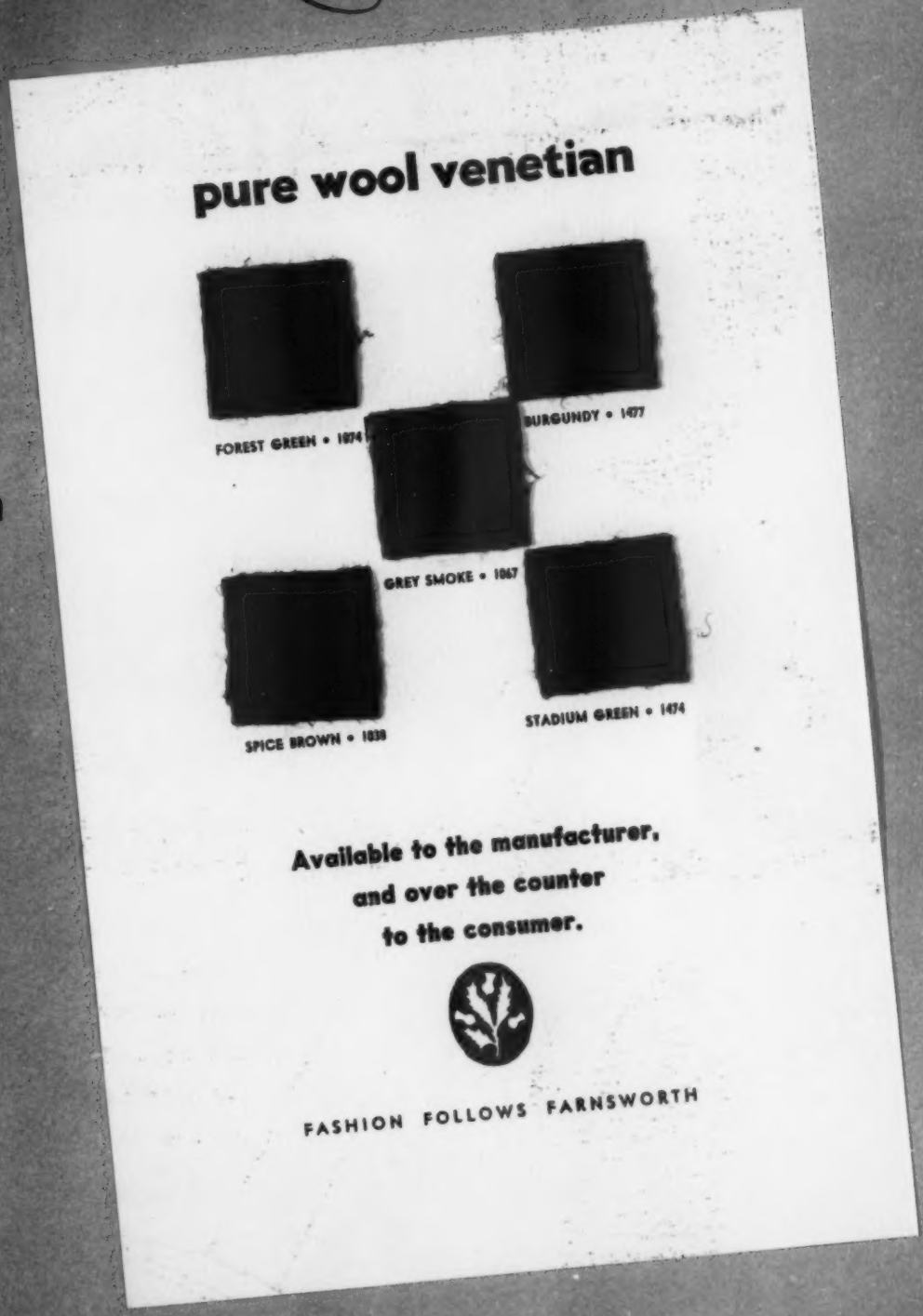
Farnsworth

presents a

portfolio

of fashion

tones . . .

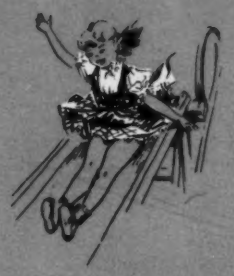


virgin pure wool

FARNSWORTH & FARNSWORTH, 40 WEST 40 STREET, NEW YORK CITY 18

a powerful sales factor in your future fashions

Any degree of hand—you can have a crisp, taffeta-like, soft, silky or linen-like hand



Improved wearing qualities—finish adds durability—longer life

Amazingly crease-resistant—wrinkling which does occur, disappears in a short time after wearing

the new friendly
everglaze* Fabrics

Require less laundering—because they are amazingly spot and soil-resistant

Any degree of durable lustre you desire—from a deep-seated subdued lustre to a high lustrous glaze

COTTON · RAYONS · MIXTURES

*A trade-mark signifying fabric finished and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons Co.

An outstanding feature of the exclusive process by which "Everglaze" fabrics are produced is that: basic cloths are actually transformed—are given added beauty and a friendly hand which they normally do not possess.

NOW READY FOR YOU

REVISED • IMPROVED • ENLARGED

Essential Basic Knowledge

UP-TO-DATE: New developments, new fibers, new processes, new finishes, new fabrics without forgetting the old.

FOR TEACHERS and STUDENTS: Methods of learning and teaching textiles, underlying philosophy and psychology used in textile education. Subject matter in unit-plan — Topic, Aim, Motivation. Development, Application, Testing, Materials.

COMPREHENSIVE: Forty outstanding textile technologists and technicians aided the authors to make this effort comprehensive, concrete and complete. As a result — terms, natural, man-made and synthetic fibers and filaments, yarns, weaving, fabrics, dyeing, printing, finishing, physical and chemical testing of textiles, and spot and stain removal and the care of clothing are complete in all details.

AUTHORITATIVE: Written and edited by two eminent textile educators: George E. Linton, Ph.D., Dean, Textile Dept., Fashion Institute of Technology and Textile Editor of American Fabrics, New York City. Joseph J. Pizzuto, B.T.C., Chairman, Textile Dept., Central High School of Needle Trades, New York City.

APPLIED TEXTILES

RAW MATERIALS TO FINISHED FABRICS

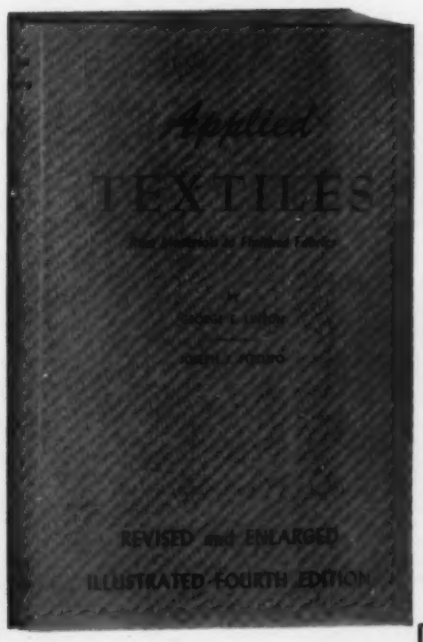
FOURTH EDITION

IN UNIT SEQUENCE WITH SELF-STUDY AND SELF-TESTING PROGRAMS

- For all phases of the textile and apparel industries.
- For teachers and students in textiles, apparel, home economics.
- For mills, manufacturers, converters, jobbers.
- For buying offices, retail buyers, comparison, training depts.
- For textile training depts. of textile mills.
- For advertising, publishing, research libraries.
- For textile colleges and institutes — day and evening.

6¼ x 9¼ inches
Natural cloth finish
480 Pages
234 Pictures
110 Illustrations
34 Figures
Exhaustive bibliography
Write for Quantity Discounts

LIST PRICE	
TRADE EDITION	$6.00
SCHOOL EDITION	$4.75



LIFETIME EDITIONS
435 E. 24 St.
New York 10, N. Y.

Please send me .... copies of
APPLIED TEXTILES

Trade Edition ☐
School " ☐

To .....
name

.....
address

.....
city zone state

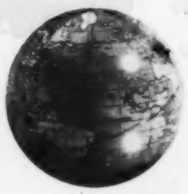
☐ BILL ME ☐ CHECK ENCLOSED

LIFETIME EDITIONS, INC., 435 EAST 24th STREET NEW YORK 10, N. Y. MU. 3-5220

amer-mill **Godey Crepe**

Remember the name Godey Crepe! An important fabric newcomer. A rayon weave keyed to the current silhouette. Julius Garfinckel in Washington and other fine stores have this dramatic Pattullo Original. Also available by the yard. In luxurious Cotillion colors.
AMERICAN SILK MILLS, 1400 Broadway, N. Y. C.

One of a series of Amer-Mill ads appearing in Fashion Publications



at home **or abroad . . .** the Stafford Stallion is a sure and faithful guide to all those who make quality their goal. This honored mark points unerringly to fabrics of superb color . . . to exquisite printing . . . to originality in weave and design . . . and beauty and worth in texture.

Stafford fabrics are loomed in the Pennsylvania hills and craft-printed in the little New England town for which they are named. Stafford . . . the symbol of the fabrics with a pedigree.

GOODMAN & THEISE, INC., 3 East 40 St., New York 16, N.Y., Stafford Springs, Conn., Scranton, Pa.

Gingham for little girls has been a childhood classic since daguerrotype days! Crisp and sturdy, easily tubbed . . . and today a high-fashion fabric because of the ingenious styling, sophisticated yarn-dyed colors and traditional quality which give all Galey & Lord cottons that can't-be-copied character.

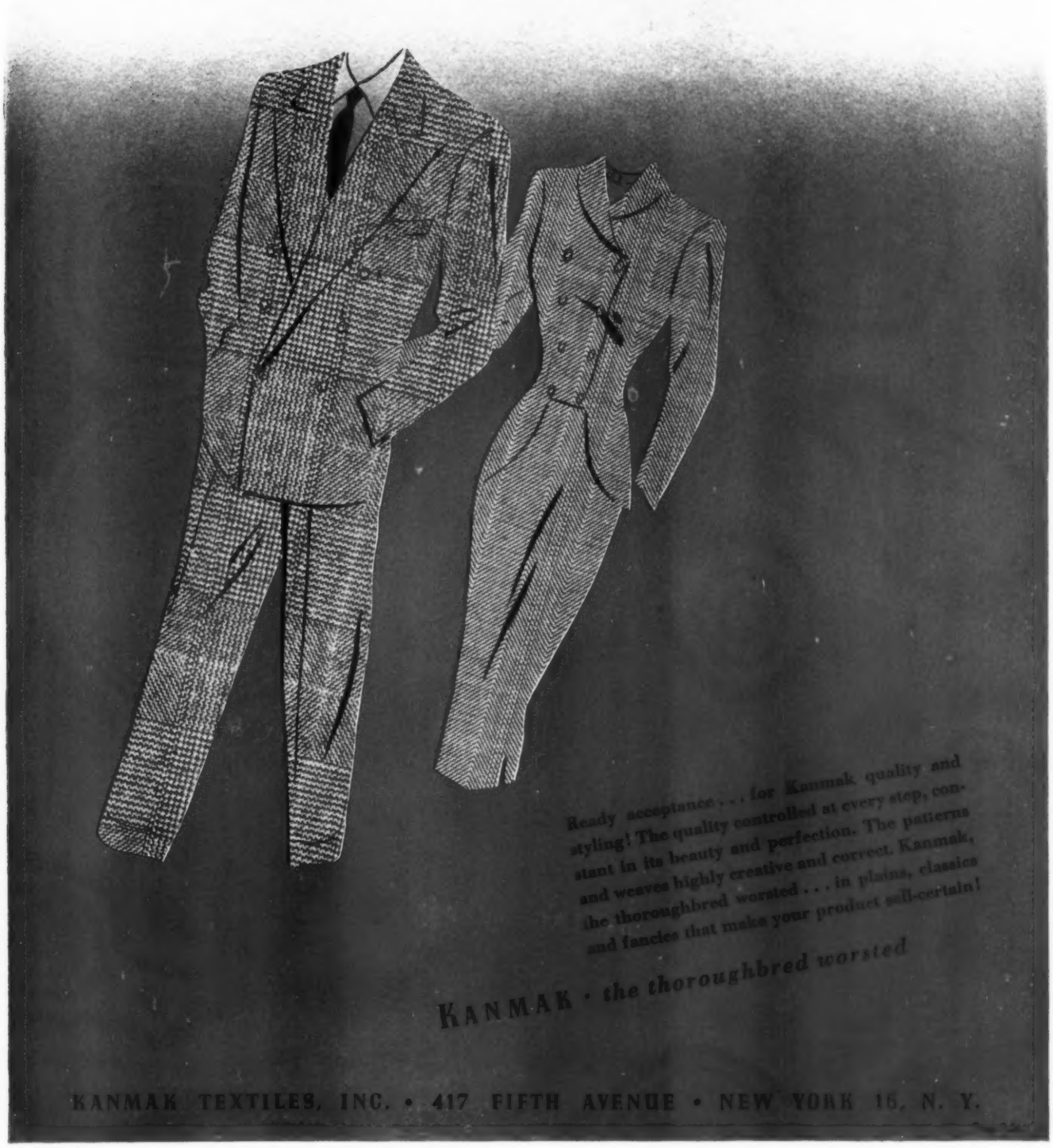
Galey & Lord Cottons

Bur-Mil QUALITY

GALEY & LORD, INC., 57 WORTH STREET, NEW YORK, N. Y.

KANMAK* *worsteds*

PROVEN THROUGH READY ACCEPTANCE!



Ready acceptance . . . for Kanmak quality and styling! The quality controlled at every step, constant in its beauty and perfection. The patterns and weaves highly creative and correct. Kanmak, the thoroughbred worsted . . . in plains, classics and fancies that make your product sell-certain!

KANMAK · *the thoroughbred worsted*

KANMAK TEXTILES, INC. • 417 FIFTH AVENUE • NEW YORK 16, N. Y.

as advertised in Vogue

In readymades or ready-to-be-made . . . discerning women ask for Cerey´ special-interest fabrics of quality.

It takes supple, free-flowing fabric to manage such wonderful lines.

Cerey´ 100% pure wool, tweedy-faced and luxurious, performs superbly in Claire McCardell's companion pieces: suave dress and wrap-of-a-coat.

Cerey´ WOOLENS

Berkshire-Cerey´, Inc., 51 Madison Avenue, New York 10, N. Y.

NOW!

A New Proven Method of Preselecting Color Combinations!

VISUALIZE color for your Customers

DEVELOP fresh Color Combinations

TEST and experiment with Color Ratios

STANDARDIZE Color Specifications

* * *

Save TIME, MATERIAL, and MONEY!
13,824 Possible Color Combinations

* * *

Internationally Accepted and ENDORSED by . . .

TEXTILE DESIGNERS — "a *must* for pattern planning, color synchronization."

MANUFACTURERS — "saves me so much time and effort in standardized color specification and verification."

DYERS AND FINISHERS — "ideal for exact color-matching in plant and showroom, for photo-engraving cameras, new trends."

RETAILERS — "invaluable consumer shopping guide to illustrate coordinated color suggestions quickly and easily . . . a real sales clincher."

INTERIOR DECORATORS — "wonderful for choosing color schemes, visualizing colors for rugs, furniture, walls."

ART DIRECTORS — "speeds up original exploratory work . . . saves layout time and effort."

STUDENTS — "useful at every stage in the classroom, to make fresh color discoveries, to illustrate ageless color truths."

ENDORSEMENTS SENT ON REQUEST

COLOR HELM

COLOR HELM INC.
201 East Ridgewood Avenue
Ridgewood, New Jersey

(Reduced From Actual Size)

THE ANSWER TO YOUR COLOR PROBLEM!

Manufacturers, Dyers, Finishers, Textile Designers, Textile Printers, Interior Decorators, Retailers, Artists, Students: Save time, material, and money! Please clients and customers! Increase sales! No more need to mix colors, clip swatches, or search magazines — Now *you* can get the correct answer to your color problem *every* time — quickly, accurately, with Color Helm, the *precision* color guide. Color Helm places the entire spectrum at your finger tips, and shows thousands of possible color schemes in a *matter of seconds.*

COLOR HELM WORKS QUICKLY, EASILY

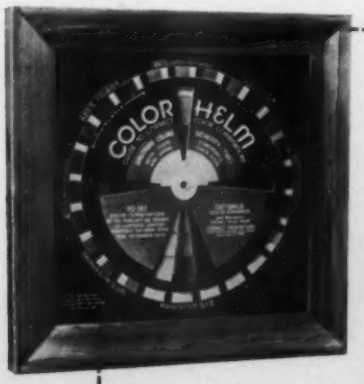
The Color Helm combines colors in sets of 3 — simultaneously arranging all of the other 69 colors in the same relationship. Set the simple system of keys for the degree of contrast you desire, and automatically all colors are arranged for either analagous, alternate, intermediate, triad, or complementary harmony. There are two complete sets of colors and there are 72 colors in each. The first set consists of the fixed outer border known as "The True Color Circle." The second set consists of the same colors concealed beneath the top shield. Four sets of three colors each are shown in triangular windows, with one further divided in three to show related tints, pures, and darks at the same time. An extremely high degree of accuracy, heretofore available only to the few who could afford hand painted color standards, has been achieved in Color Helm colors by individual reproduction by American Colortype Company, after preparation and testing by the Eagle Division of the General Printing Corporation.

COLOR HELM (MODEL NO. 82)

72 spectrum colors, 13,824 possible combinations. Built on a reinforced framed platform which slides in and out of a glass-faced permanent reference cabinet. Recognized standard equipment for dyers, finishers, manufacturing plants, textile and industrial designers, laboratories, schools, universities, and individual professional use. Ready to stand upright or hang on wall. Operating instructions and condensed treatise on "Science of Color" included with each model. Size 14" x 14". $22.50 each.

COLOR HELM IS A PRECISION INSTRUMENT

The Spectrum Color Helm is a *precision instrument* accurately constructed according to standards and intervals established by Doctor Ostwald, Nobel Prize winner for 1909 and internationally recognized as the scientist who developed the discoveries of Sir Isaac Newton, Thomas Young, and Helmholz to more simplified and generally accepted form. Since 1932, when the first Color Helm was designed and built by Joseph P. Gaugler, this 1948 edition featuring spectrum colors has gradually been perfected in collaboration with physicists, color laboratories, and printing experts. Color Helm colors, established scientifically over a century ago, have been verified in modern laboratories with the spectrophotometer. Electromagnetic eyes can now chart color curves which heretofore were calculated with human eyes by scientists such as Tyndall and Ostwald. Two of these curves, as recorded in the laboratories of the Massachusetts Institute of Technology, are reproduced on the back of each Color Helm. Color Helm also brings you a condensed text outlining the essential color facts, and at the same time conveniently provides you with the authentic equipment to demonstrate, with actual colors, the laws underlying this fascinating Science.



USE THIS ORDER FORM FOR YOUR CONVENIENCE.

COLOR HELM, INC., 201 EAST RIDGEWOOD AVENUE, RIDGEWOOD, N. J.

☐ Gentlemen: Kindly ship immediately; Gaugler Color Helms (Model 82) with glass faced satin wood removable cabinet approx. 14 inch square as illustrated at $22.50 each (indicate quantity in box).

☐ **FREE! Folder showing color combining equipment and handbooks on color.**

☐ **Please send me information regarding color planning service for industry.**

Firm Name _____

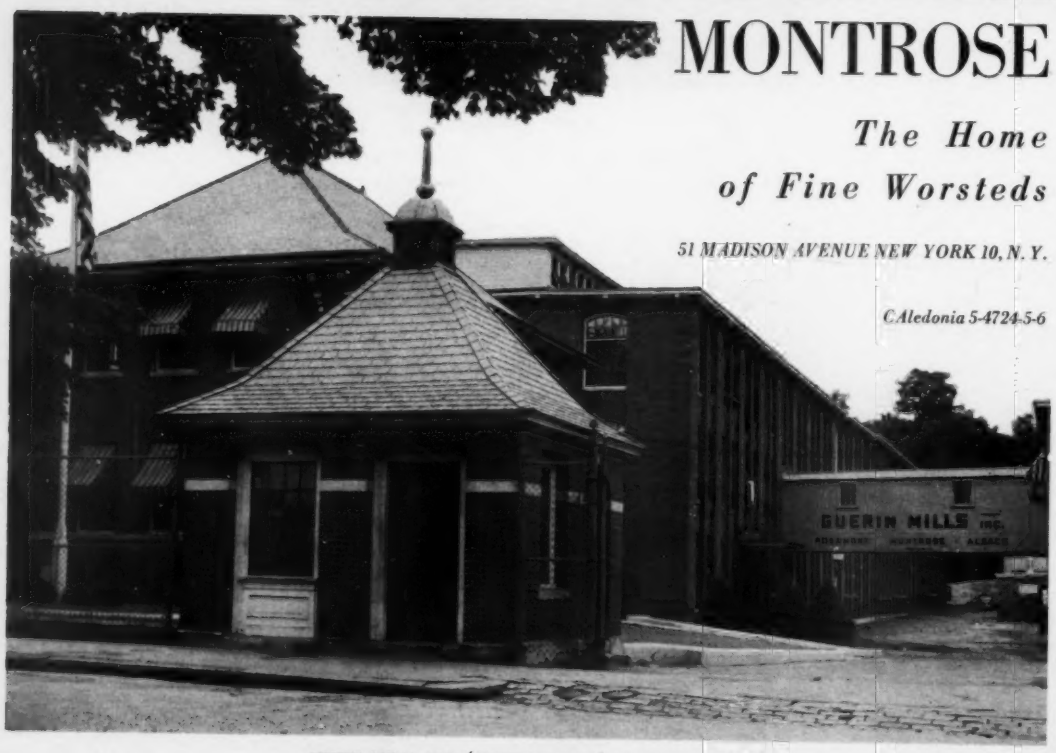
Your Name _____

Street _____ **City** _____

Zone _____ **State** _____

Position or title _____ **Profession** _____

☐ **C.O.D. (Charges Collect)** ☐ **Remittance Enclosed (Charges Prepaid)**



MONTROSE

The Home
of Fine Worsteds

51 MADISON AVENUE NEW YORK 10, N. Y.

CAledonia 5-4724-5-6

GUERIN MILLS INC. (MONTROSE MILL), WOONSOCKET, R. I.

Here's a new type of Carded Gabardine . . . the answer to present demands for both QUALITY and PRICE. Vat Dyed and Sanforized, with the same high count as combed gabardine . . . yet the price is competitive to help give your customers all-around better value. Riegel Gabardines have the rich feel that identifies quality everywhere. They are spun, woven and finished in the same plant for "The Mark of Quality . . . and Extra Value".

THE MARK OF QUALITY AND EXTRA VALUE

Riegel

GABARDINES

Riegel TEXTILE CORP. RAYONS and COTTONS, Spinning · Weaving · Finishing
342 Madison Avenue, N. Y. 17, Atlanta, Chicago, Dallas

VALCORA
KUPPENHEIMER
Hudder
Land O'
Llamanara
Drummond Down
PACA LAMB
HAIR AND WOOL
Lamgora
ALPINE DOWNS
GUANACO AND ANGORA YARNS
A CONTINENTAL FABRIC
MacHeath
TWEED
Season Shipper
Flint Ridge
Climateer
TAILORED BY
SIMILY CLOTHES
Continental
QUALITY FABRICS
Nationally featured in Gentlemen's Clothing
ALPACURA
IMPERIAL
TOWNSTER
A CONTINENTAL FABRIC
CONTINENTAL
Heathersheen
PARGORA
Alpa Jones
Rambler
LAMBEAU GRANDE
HAIR AND WOOL
DUROLUX
ALPACURA
COAT
TOURCOTE
Michaels Stern
VALGORA
KUPPENHEIMER
Continental Mills Inc.
PHILADELPHIA, PA.

ANOTHER CYANAMID CONTRIBUTION TO THE TEXTILE INDUSTRY
WASHING AND CLEANING SUGGESTIONS FOR
Permel ®
DURABLE
WATER REPELLENT FINISH
PERMEL treated fabrics are resistant to perspiration stains. Ordinary spots may be sponged off with a damp cloth. Remove grease or oil with spot remover.
Important. The durable PERMEL finish will continue to repel water and resist perspiration stains even after repeated dry cleanings or washings. Only fabrics labelled "washable" should be tubbed. After washing, rinse thoroughly.
AMERICAN CYANAMID COMPANY
U.S. Patent No. 2,357,273

AMERICAN CYANAMID COMPANY
TEXTILE RESIN DEPARTMENT

BOUND BROOK, NEW JERSEY
Tel. Bound Brook 9-0500

30 ROCKEFELLER PLAZA, N. Y. 20, N. Y.
Tel. Circle 7-0100

NEW YORK • PHILADELPHIA • PROVIDENCE • CHARLOTTE • CHICAGO

Quality Cottons and Rayons

AMERITEX, A DIVISION OF UNITED MERCHANTS AND MANUFACTURERS, INC., 93 Franklin Street, New York 13, N. Y.

"THE BLUE VASE" by CEZANNE LOUVRE, PARIS © 1937 NATIONAL COMMITTEE FOR ART APPRECIATIO

THE SIGNATURE

of the

MASTER

is immediately recognized . . . whether it be an artist's
drawing, a symphonic composition, or a fine fabric,
the handwriting of the master is unmistakable . . .
is quickly recognized by those who know.

For a demonstration, the editors of American Fabrics
request that you please turn to the following pages.

We are all aware of personality and individuality in people. When someone who possesses these attributes, to an unusual degree, enters a room, heads turn and the very atmosphere seems to be affected. To a far greater degree than ordinary people, the artist stamps his signature and personality on his work. And in the same manner, certain fabrics are stamped unmistakably with individual character . . . are easily identifiable as the work of a particular manufacturer.

REMBRANDT

Every drawing, every etching, every painting by Rembrandt is a personal expression of this master. More perhaps than any other artist, Rembrandt's feeling for variety and richness of texture is expressed by the line itself.

The signature of a Stroock Kashmir is a richness and a soft-textural feel, which instantly communicates itself through one's sense of touch.

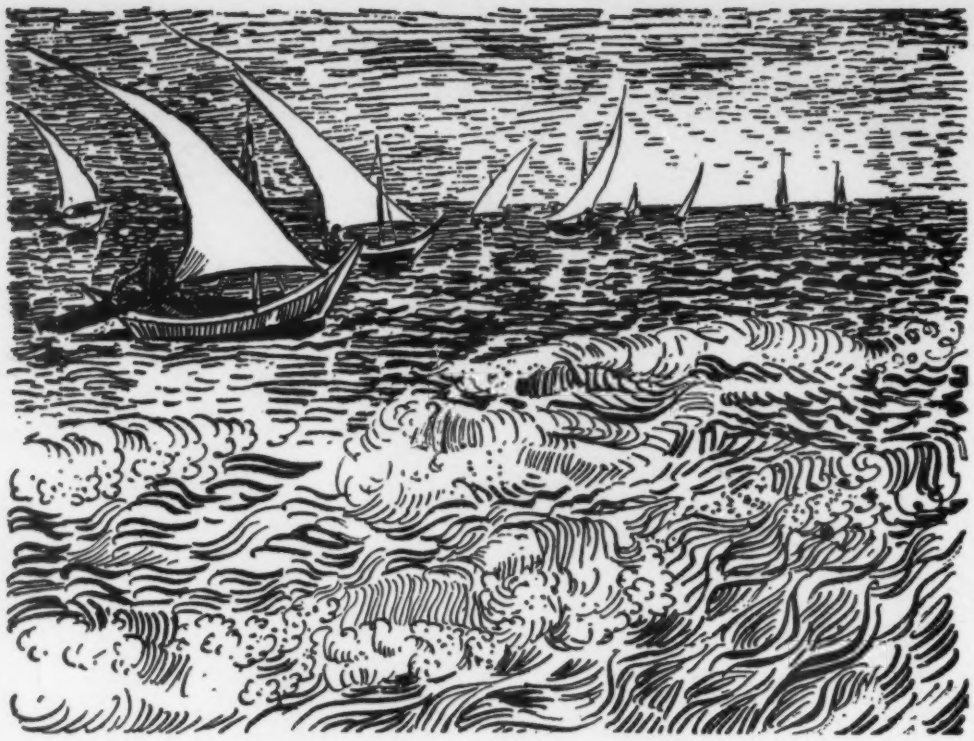
STROOCK

PICASSO

Without any signature, most readers could identify the sketch which is reproduced. The expressive, sensitive line is the mark of the modern master Picasso.

And in the sphere of fine fabrics, a Forstmann interpretation is as readily identifiable as the Picasso drawing above.

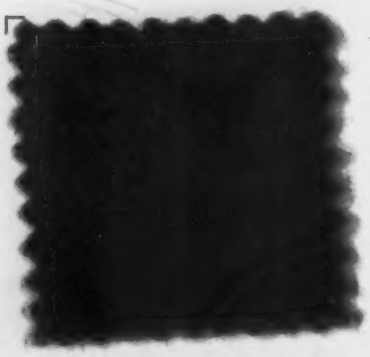
FORSTMANN



VAN GOGH

Using a form of short-hand — all his own — to express texture and form, Van Gogh's genius is purely a personal expression.

The rich, deep, soft-to-the-touch pile of Polo Cloth belongs only to one manufacturer — Worumbo.



WORUMBO

MATISSE

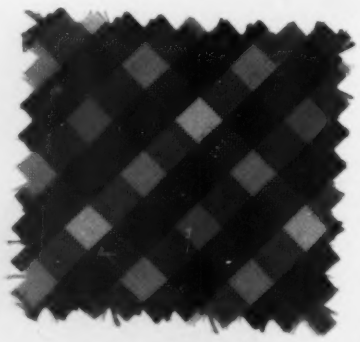
While he is best known for his individual color palette, the modern master Matisse possesses an extremely personal feeling for decorative balance in drawing.

Juilliard's weaving technique and color sense has given corduroy a personality of its very own.

JUILLIARD

CHAGALL

Extremely personal in expression, Chagall makes effective use of line to tell a story. The short, jerky strokes serve well where action is not of prime importance.



GALEY & LORD

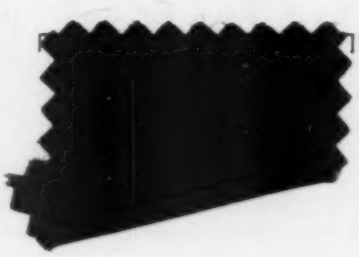
Un-ginghamy colors and intensive preoccupation with even the tiniest details of proportion — the signature of Galey & Lord.

GAUDIER-BRZESKA

LONSDALE

In the field of broadcloth, the swatch which is shown can be quickly recognized as a Lonsdale by those who know.

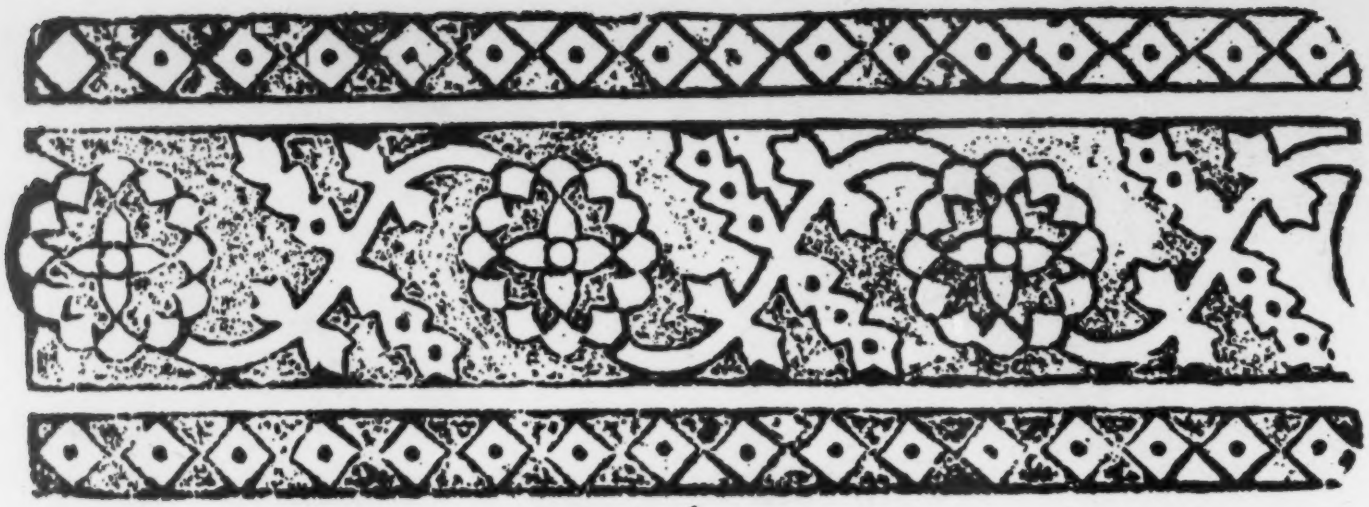
Compare the "linear" line of Gaudier-Brzeska in the sketch above with the brush stroke rendering of the late M. Bonnard in the drawing below . . . two personalities — each work reflects the maker's individuality.



SKINNER

And in the category of satin, it has been aptly said that only Skinner can produce Skinner's Satin.

BONNARD



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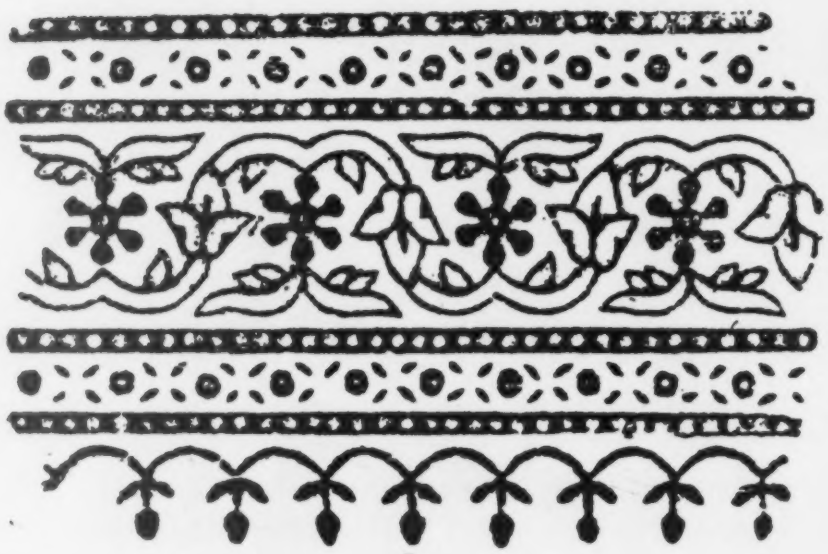

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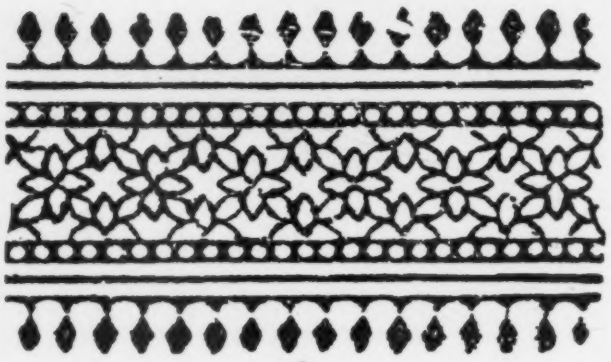

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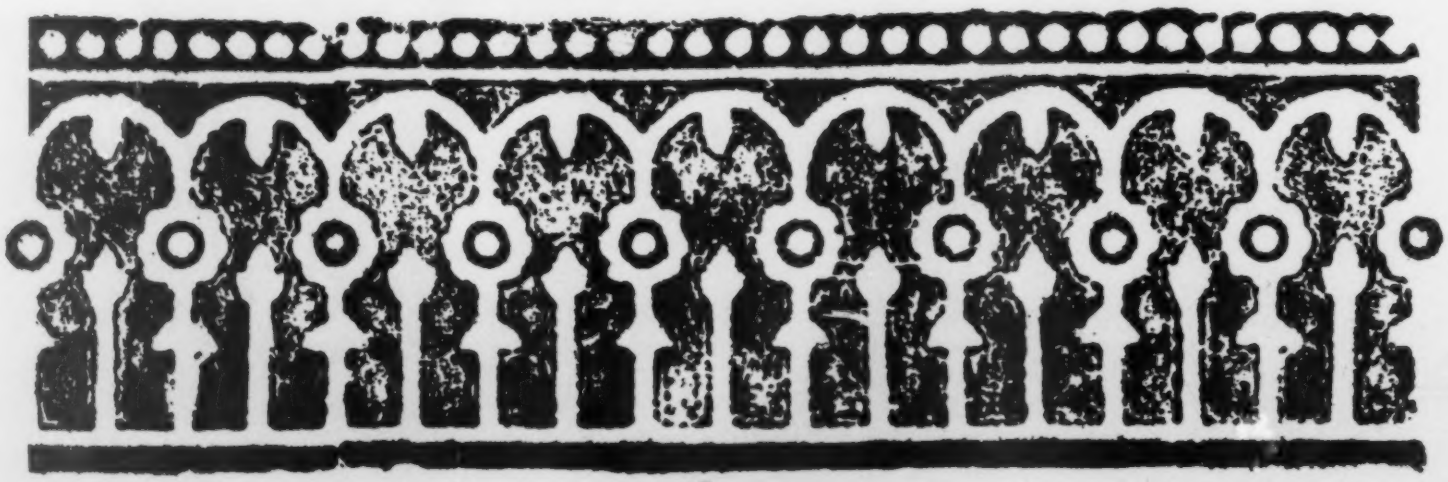


6

BLOCK PRINTS FROM INDIA

Designs from the Field Museum of Natural History

SHE WALKS IN BEAUTY

She walks in beauty, like the night
Of cloudless climes and starry skies;
And all that's best of dark and bright
Meet in her aspect and her eyes:
Thus mellow'd to that tender light
Which heaven to gaudy day denies.

One shade the more, one ray the less,
Had half impair'd the nameless grace
Which waves in every raven tress,
Or softly lightens o'er her face;
Where thoughts serenely sweet express
How pure, how dear, their dwelling-place.

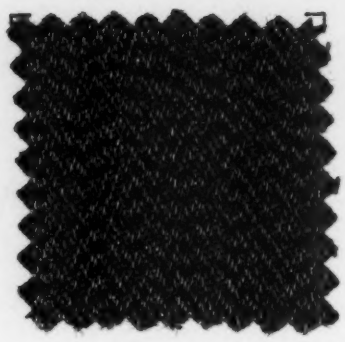
And on that cheek, and o'er that brow,
So soft, so calm, yet eloquent,
The smiles that win, the tints that flow,
But tell of days in goodness spent,
A mind at peace with all below,
A heart whose love is innocent!

Byron — Hebrew Melodies.

THE KEYNOTES IN FABRICS . . . Crisp, stiff, formalized fabrics — faille, taffeta, satins. Jacquards — in every stiff fabric category and a fashion that we believe will emerge into damask, shantungs, crepes, and cottons. Iridescence — an important over-all trend — embracing wools from tweeds to gabardines, cottons, taffeta, satins — fabrics formal and casual. Lames — another over-all fashion trend that runs through fabrics from wool to cotton. The availability of fine French lames plus the development of metal thread fabrics by American makers gives them an important place.

THESE ARE THE KEYNOTES IN THE COLOR PALETTE . . . Black — bigger than ever because of the texture and sheen of the new fabrics — bigger than any black crepe era. Deep rich colors — dark gray, taupe, navy blue, brown and plum, deep rich greens.— Tobe.

COHAMA



VERNEY

Painted by John Singer Sargent

Painted by John Singer Sargent

Painted by William M. Chase

DUPLEX

SUSKANA

Metallic striped taffeta by Cohama, initiator of the crisp feel in fabrics.

Luxurious Metallure . . . by Verney . . . inspired by the crystal-lit ballrooms of the Renaissance.

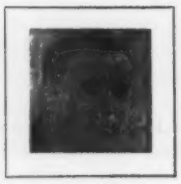
Duplex's Del Robbia . . . a moiré rich in formal tradition . . . timeless in demand.

Suskana's Jacquard tie fabric, unusual for coming season collections.

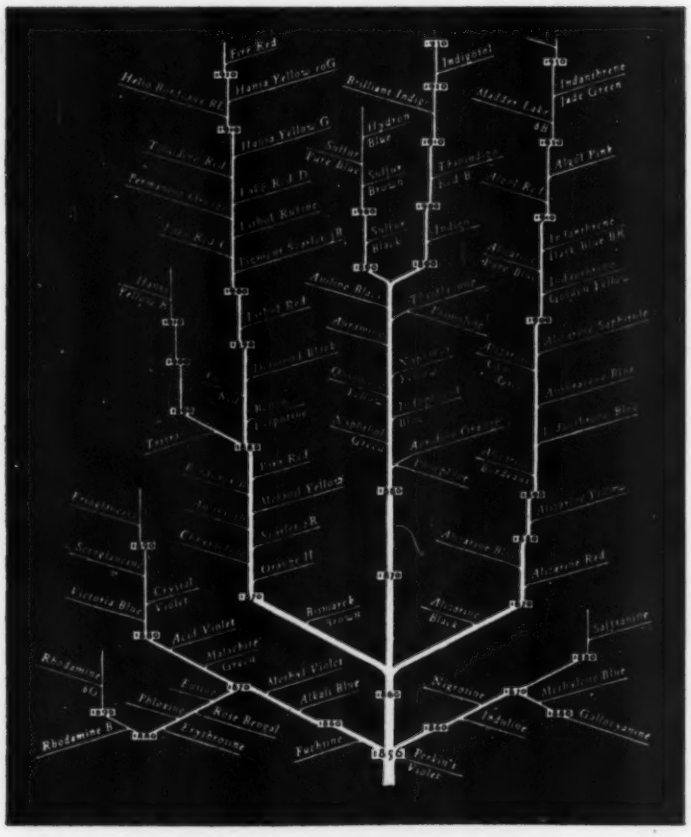
Painted by S. Seymour Thomas

Painted by John Singer Sargent

Painted by John Singer Sargent



Howard Ketcham, **AMERICAN FABRICS** *consultant editor on color and design, has played a leading role in color development in transportation during the past 20 years. In the course of providing colors for American makes of automobiles he conducted research on consumer color preferences over a period of eight years to develop a favored minimum number of automobile colors. He has designed interior treatments of Pan American Clipper planes for the past 12 years, and has also provided color treatments for United Air Lines, American Airlines, Sikorsky, and Bellanca planes. In the railroad field, he has designed coaches and locomotives for Jersey Central Lines, Southern, and M-K-T Railroads. He has designed buses for the Gray Lines and Fifth Avenue Coach Company, and trucks for numerous commercial concerns.*



Significant Developments in Organic Color Chemistry

A HISTORY OF COLOR

Few things are more appreciated or less understood than color. Man's fondness for color is based upon his background of tradition, education, training and experience. But, what were the first colors; where did they come from; and how were they used? Howard Ketcham, American Fabrics consultant editor on color, traces the history and development of all-important color.

A HISTORY OF COLOR

IN ALL probability, flowering plants represented the first use of color in a promotional sense. It is a fact that flowers which are fertilized by the wind never have gaily-colored corollas, whereas insect-fertilization invariably is associated with bright blossoms. Successful coloration for purposes of attracting favorable attention is obviously nothing new.

Primitive man knew when fruit was ripe — not by hearsay — not by printed words — but by color alone. Scores of color associations are indelibly stamped on the pattern of our racial subconscious, dating back to the dawn of mankind's history.

Heat is still associated in men's minds with the red of fire, purity with sky blue, frigidity with the dark blue of night, freshness with plant green, gaiety and light with the golden hue of sunlight.

Primitive Reactions

Primitive artists have left behind a message in color that has told us much about our earth in the eons before historical time. For one thing, we know that man had better vision then, for cave illustrations show constellations in correct position which we can see today only with the aid of a telescope. For another, we know that primitive man had already standardized certain reactions to specific colors: relating yellow and red and blue to sunlight and fire and sky or water, respectively. These primary pigments expressed for him the cycles of life — at its morning, in full vigor, and at the ebb. So yellow means to us exultation or wisdom; red, vigor and passion; blue, peace and idealism.

Red's etymology would indicate that it was the first color word to be established in the parent language. It is found first in the Sanskrit word for blood, "rudhira." But blood is not a stable red. In the veins, it appears purple. Arterial blood is a vivid crimson; in stains blood is brown and it clots black. From this evidence it is clear that the language of color has suffered from a lack of proper codification for many thousands of years.

"Purple and Gold" . . .

Archeological discoveries have revealed that the Assyrians who "came down like the wolf on the fold" were truly "gleaming in purple and gold." The earliest color palettes, as shown by basreliefs at Nineveh, included a bright blue derived from nearby copper mines, yellow, red, blacks and whites. The Assyrian palette was supplemented in time by purple, green, violet and brown enamel colors, which were used to paint figures on the bricks of the royal palace at Nimroud. The green, for example, was obtained by mixing the characteristic blue with ochre. Some of the best Assyrian color achievements are in tile — combinations of black, white, red and purple-blue, or of red, green and yellow-red-yellow.

Babylon's idols were draped in purple cloth, and when the Hebrews were brought into captivity by Nebuchadnezzar in 586 B.C. they found the royal temple, dedicated to the planets, paneled in colors which had come to symbolize each: yellow for the sun, white for the moon, black for Saturn, orange for Jupiter, red for Mars, green for Venus and blue for Mercury.

Discovery of new sources of color — plant and marine life, bleached animal bones — marked the blossoming of civilization in widely separated areas of the earth.

Three shades of purple were recorded by the ancients, one by combining 200 parts of the dye from one type of shellfish with 111 parts from another. It has been calculated that 750 snails provided fifteen hundreths of a gram of purple dye, which indicates why the dye was valued equally with gold.

Small wonder, too, that the Roman Emperor Diocletian recorded the earliest complaint extant about a wife's expenditures, a bitter note about the "high cost of living" which set the Empress' purple wool fabrics at $350 a pound!

However, by then the era of the cheaper imitation — perhaps from the madder plant which provided red and purplish-red dyes for Egyptians and Romans — must have arrived. The earliest description of fishing with artificial flies, dated in the third century A.D., tells how Macedonians in the now-troubled areas of northern Greece covered their hooks with purplish wool, fastening to the wool two wings similar in color to beeswax, from the plumage or wattles of a cock. The victim, then as now, was trout.

Fashion color also changed, then as now.

In the time of the Roman Emperor Augustus, the royal purple was of a violet hue, made from the shellfish called Buccina; then a purple red found favor; later, mixture followed new mixture of dyes, to vary the chosen hue of the imperial color.

Egyptians First Color Engineers

The glaring sun of the bright Egyptian Nile Valley first induced the principles of color engineering, to add functional use to aesthetic appeal of color.

Thanks to the absence of rain in the Nile regions, helping to retain the brilliance of original colors, we have evidence dating as far back as 4,000 B.C. to show that the Egyptians were first to use the light reflection values of colors to obtain some practical effects. Owing to the blinding glare of the Egyptian sun, homes were constructed practically without windows. This enabled the Egyptians to rest their eyes while indoors.

Not wishing to dwell in dull gloom, they saw to it that their walls were both decorative and of practical use. Because strong, bright colors reflect light best, the Egyptians still persist in the use of those strong bright colors in their homes. To this day, vivid ceiling hues, cool-colored walls and glowing rugs turn heavy shadows into rich bloom. Much of the efficiency of our present-day use of color in dark apartments and closely-packed city homes is successful because it applies lessons learned in that distant past.

The Egyptians decorated their homes within and without in color, colored pottery and mummy cases, and, according to Sir Humphrey Davy a century ago, "practiced calico printing in a manner similar to the moderns." They seldom used pure hues, but employed reduced shades or tones — greens ranging from the brightness of emerald to grayed dark olive, yellows in warm tones, reds scaled toward brown, and low-value blues. It was an Egyptian king who is credited with the invention of Alexandrian Blue, whose brilliancy and power were esteemed alike by the ancients and by moderns.

They roamed far afield for their color supplies, obtaining bright orange yellow from Syrian orpiment, red sandarach from the island of Topazas in the Red Sea, indigo from an Asiatic plant, and green from a mixture of native coppery blue with the Hennè plant of the East. Carmine came from the cochineal insect, indigenous to the Canary Island; purple from the Phoenician trade in molluscs from the Syrian shores.

But the Egyptians, more fond of color than of realism, eventually allowed too traditional an approach to color application to thwart their development.

* * *

The early Greeks, on the other hand, showed the same progressive slant in dealing with color that marked other features of

(*continued on next page*)

Hellenic culture, which made them a dominant influence on Western civilization.

In Crete, well before the growth of the mainland culture, there was introduced a feeling of movement, through provocative color applications. In Elizabeth Burris-Meyer's interesting "Historical Color Guide," we are reminded of the frescoes of the palace of Knossos, with blue-green monkeys, blue spotted hounds, a rose-colored boar and a pink horse disporting themselves in vital movement, enhanced by warm and sensitive colors unfettered by naturalism. This mode was repeated in the 17th-century art of India, in which guache or tempera illuminations portrayed the "essence of the subject," with pink elephants, violet horses, and blue divinities.

The celebrated "blue horse of Munich," by Franz Marc, proved that attractive color not limited to prosaic imitation of Nature could catch a mood appropriate to the object, and attract admiration and understanding.

Today, clever advertising men occasionally offer a similar change of pace to draw notice — red frogs in ads, or red-skinned store window dummies. But for the most part, the realistic tradition of western civilization is followed so closely that the Memphis department store of J. Goldsmith & Sons fortified a Mother's Day ad picturing a carnation in natural color by using carnation-scented printing ink.

The "sense of the appropriate," with less slavish adherence to tradition in color, became a Greek contribution to our color culture. To them we attribute color standardization — although with little success as far as nomenclature is concerned. (Today we are so far from standardized color names that artists employed 56 variations under the designation of emerald green at a single exhibition, and paint manufacturers offer 118 different colors as "buff"!)

Realism, harmony, balance and rhythm were developments of Greek color application. Never were adjoining areas on an architectural structure or on an animate figure allowed in the same color. For example, a blue Doric cornice would require use of another color on the adjoining guttæ.

The Greeks used vivid colors on their temples and their homes, decorating walls and wood panels and vases. But color was subordinated to form, light and shade were more important than hue. The brilliant reds and blues were used on exteriors, and subtle muted hues obtained elsewhere. The Greek palette featured tints of red-orange, blue-green, yellow-orange, creamy white, deep blue, red-violet and yellow-green.

* * *

Rome contributed the idea of order and efficiency to color.

The Romans were the first to use stencils for painting borders, and the first to paint stone or plaster in imitation of marble and granite. They are noted more for preserving and codifying two previous cultures than for their own accomplishments.

The color we know as Tuscan Red is credited to the ancient Etrurians who inhabited the plains of Tuscany before the Roman conquest of the Italian peninsula, and whose tombs and pottery show skill not inferior to the Greek.

Much of our knowledge of Roman color is provided by the ruins of Pompeii and Herculaneum, rediscovered early in the 18th century. The colors then uncovered had a vast influence on art and interior decor. The fine ashes which covered this Roman resort preserved its colors through the centuries.

Pompeii's Baths of Titus also provide a catalogue of the source of Roman color. Sir Humphrey Davy found pots full of ochre, massicot, arsenic, vermilion, red lead, cochineal, blue cobalt glass, and copper green, brown ochre, and brown umber there.

Wall colors in the Pompeiian ruins employed naturalistic color techniques, with black backgrounds to offset the brilliant sunlight of Southern Italy. Sometimes intricate designs employed a variety of color tints, and other schemes offered white landscapes on the background in black. The Romans also employed the principles of advancing and retreating color, to establish a series of planes on a flat surface.

Price Control and Red Pigment

The Romans had their own commercial problems in producing colors of such appeal. Not only did the Emperor complain of the cost of the purple dye from Tyre; a price-control law covered the import of cinnabar for red color pigment from Spain, and the historian Pliny wrote that one company had adulterated with local clay an import cargo of five tons! Vermilion was an important color to the Romans; the statues of the gods were painted in that hue, and Jupiter's face was varnished with wax and oil after being colored to protect it from fading. Heroes painted their bodies red for the ride in Rome's gala triumphal processions.

The importance of red in the Roman scheme of things led to its replacement of purple as the color of reverence and dignity. During the Middle Ages only sovereigns and princes were permitted to wear red, and by 1245 A.D. the red hat became the symbol of the cardinal's rank in the vestments of the Roman Catholic Church.

* * *

Another source of interesting information about Roman color are the ruins of the Roman occupation of Great Britain.

When Julius Cæsar made the initial conquest in the islands across the Channel, he reported that the native Britons stained themselves with woad — a plant of the mustard family — which produced a blue color. The historian Pliny elaborated a century later: "With the plant which the French call Glastum, the wives and maidens of the Britons completely stain their bodies; and, on certain festal days, they go naked to the temples."

Commonly we think of the period of Roman occupation of the British Isles, until 410 A.D., as a dark age, followed by an equally dark period in which Saxons and Anglos fought, Alfred the Great started a navy, and little else happened.

But the Romans built magnificent roads, spacious and beautiful cities and well-planned houses. The Roman homes had a system of central heating, with a furnace outside the building connected to a hollow space below the floor, and with flues in the walls, to provide radiant heat. And, at the same time, the Romans introduced color schemes to the interiors.

Roman Color Fashions

Scattered fragments in the ruins of Romano-British architecture revealed a confident use of interior colors, more restrained than primitive or peasant art, and suited to the British climate. In some cases the Roman designer divided wall spaces with strips of plain color, in others with marginal borders of considerable width, made up of many bands and lines of color. The dado of a room might be a plain band of color or a horizontal bar running into margins. One Roman dado had a row of alternating round and square panels, set with leaves and ears of corn, on a red background between dark upper and lower bands.

Red was the dominant color in many of the Roman homes in Britain. One home offered a combination of red and white with black stripes, blue, a grayed blue with red and yellow, and a combination of red, yellow and white; rooms with red background had walls divided into panels by margins in varied colors, with insets of floral designs, birds, human figures, nymphs, stars, etc. Another home employed white, dark blue and purple as marginal borders for red walls, with a yellow trellis pattern superimposed on the border and various devices inset in the trellis. Pale blue and yellow bordered another red background, over a blue-gray

dado; on the yellow margin were designs in red interlacing with conventional foliage in green.

Observers have commented that the treatments showed commanding abilities in associating a variety of hues. The restrained colors gained from the brightest day, yet had warmth and vitality to enliven the dull weather which beset Britain then as now. Patches of brightness embellished the color scheme, and the enlivening shades of floral design gave the whole the freshness of life.

In the medieval period the English peasantry painted handles, spokes, shafts, and other sections of their implements with greens and blues. The aristocracy used painted wainscoting to imitate woven hangings and painted cloth to imitate early tapestry.

The term "dark ages," in truth, is a misnomer. The light of color application never dimmed, although artificial restraints often limited its use, particularly among the humble. The Emperor Charlemagne, for example, prescribed quiet gray as the color for the common people, in keeping with his own taste for quiet dress. But an 8th century monk at St. Gallus described the red trousers, scarlet leggings, the gray or blue cloak surmounting a coat of yellow or green, and the red cap, worn by his order.

Three great influences dominated medieval color applications: feudalism, the church, and the rise of the city guilds.

The rigid etiquette enforced in color application on clothing, after Diocletian, made the purple mantle of Chinese silk a royal prerogative, broke down under the weight of shifting empires.

With the rise of knighthood came the meaningful ornamentation of heraldry, based on a limited group of symbolical figures and a small number of colors. Heraldic colors were red, blue, black, green, purple, gold and silver, variously combined.

Color and Caste

The nobility, with the rise of the European silk industry, began to clothe itself in the colors of their coats of arms, with the heraldic symbols painted or embroidered on. Soon all connected with the noble family, down to the lowest menial, wore the family colors. Then developed the parti-colored dress, with the wearer clad from head to foot in two or four vertical lines of heraldic color. Eventually, as the city bourgeoisie impinged on the noble's prerogatives in dress color, the upper circle retired in disdain to their castles, affected more restrained costume colors, and retained the heraldic colors as a livery or uniform for their servants.

The church provided a wealth of color in its structures, ceremonies and vestments.

Specified colors were used to represent virtues, vices and emotions, and the illiterate peasant was able to understand from the use of those colors the feelings that were supposed to follow. Hues, values and purity of the various colors used changed through the centuries, but the basic code was:

Red: Charity, love, martyrdom
White: Innocence
Yellow: Glory, power
Purple: Dignity, justice, royalty
Gray: Penitence
Violet: Penitence
Blue: Hope, piety, sincerity
Pale blue: Hope, peace
Saffron (orange-yellow): Sin or confession
Green: Faith, immortality, contemplation
Rose: Martyrdom

Colors used by the church in each country were selected in part according to local ideas of fitness. Medieval authorities differ in their writings on the significance attributed to different colors, for that reason. The adoption of variations, and the symbolical meanings acquired through traditional use, was made possible when the supply of fabrics materials permitted the churches to acquire vestments beyond the needs of daily, Sunday and festival use. Then different colors were appropriated for the various festivals and for different classes of saints.

By this date, in England, colors have been put to use for almost every day in the year. The scheme of color usage is maintained all over England and Scotland. The color of altar-hangings, bookmarkers, and colored stoles are changed, along with the vestments. The chief liturgical colors are red, white, green, yellow, blue and black; less often, purple, violet, tawny, orange-and-brown, dun, and horseflesh color.

Stained-glass windows in the cathedrals brought the emotional impact of color to its highest peak. The flowering of the glassmakers' talent came in the 12th and 13th centuries, with such masterpieces as the blue Tree of Jesse Window at Chartres Cathedral, which inspires complete submission to the mood of religious worship. Many of the formulas were recorded by the monk Theophilus, but a waning religious enthusiasm saw the replacement of color symbolism by naturalism, and weaker color schemes lacked the emotional appeal of the earlier period.

The finest medieval colored glass contained about twelve ingredients and was of irregular thickness, ranging from a quarter to a sixteenth of an inch. This thickness, caused by application of layer upon layer of color to obtain the right effect, helped build the effect by bending the rays of light passing through. Reds and blues are used in the backgrounds of most of the windows, but the meticulous craftsmen created great variety in the few colors they used. Rosy reds for flesh and drapes obtained the tones of Tokay grapes. Juggling the color elements employed, the glassmakers might introduce a little of the complementary color to soften the tone of a red or blue. Yellow, for example, might be seen through a delicate purple haze, producing a soft banana-skin tint.

As the feudal period gave way to an era of cities and city-states, clothing colors reflected the rising status of the bourgeoisie and the artisans.

For Peasants, Merchants and Trade Guilds

Under the influence of the Crusades, the rich peasantry of South Germany and the city merchants of the western lands could strut in green hose and orange or purple doublet. Towns adopted color symbols, and a 14th century procession in Paris saw aldermen, sheriffs, and guild-masters clad in outfits red on one side and white on the other. Trade guilds, too, wore their own colors.

Color symbolism, shown in the livery of servants of the nobility, became more widespread. Minnesingers and troubadours evolved a code in which different colors stood for moral or spiritual qualities. And lovers affected the same colors in their dress.

This past winter, the co-ed college campuses saw a fad of identical sweaters for paired-off couples. A few years back, matching bathing-suit colors were the rage. But the idea, we find, is centuries old!

The Italian commoners, while affecting rich and gorgeous colors in the 13th and 14th centuries, were restrained by ancient tradition from the crudities in color seen in the dress of Northern Europe. But by the 15th century, all Europe went wild. Even the well-to-do peasant came out in shimmering garb which heightened the colors, and strutting nobility in velvet and brocade revealed multi-colored play on various shades of color. A well-dressed woman might wear:

> High-crowned bonnet with brilliant veiling, green or blue skirts caught up by scarlet girdle to show the tapering points of red or blue shoes, hair dyed auburn, and profusion of gems and cosmetics.

* * *

While the Western World was having a rebirth of sharp bright colors, Asia and the Middle East were creating delicate hues that are the subject of wondering comment to this day.

(continued on next page)

History of Color (continued)

Ancient China had created the famous Chinese red lacquer of ground cinnabar, duplicating it finally by artificial means. Lamp black, obtained from the soot of resin burned in a sealed chamber, was made there centuries ago. The embroiderers of the Memorial of Rights, in 2205 B.C., established combinations of five colors (blue, red, yellow, white and black) as a standard used in Chinese painting. The Chinese painters used outlines to separate and to blend colors, employing appropriate outline colors to fit each requirement.

Wonderful Delicate Chinese Colours

Then, in the Sung period of the tenth century A.D., came that outpouring of the delicately-colored procelains exemplifying the color art at its peak. Fenching Chineseware dating back to that period offers bluish-green grays whose delicacy is almost transparent. Sung porcelain offered fine buff interpretations of biscuit colors and creamy whites whose high standards of excellence are imitated to this day. Apple Green was the best-loved color, with a darker and bluer Cucumber and a brilliant Emerald, and the royal family's favored yellow was the "color of dried bones." Tang yellows were browner, and a range of pinks were treated in the Ming specimens.

Centuries later, another high point of color development was reached — this time in Persia. Carpets, embroideries, pottery and frescoes of the 16th and 17th century created such masterpieces of color as Powder Blue. The earlier miniatures offered new and exciting color intervals, combining four or five brilliant colors; the frescoes, climaxing a thousand years of mural decoration, offer a turquoise lighter than the Chinese apple green, and a light azure used with contrasting salmon, rose, vermilion and other delicate reds, and with deeper blue, maroon and purple in sharp contrast in tone.

✓ ✓ ✓

In France, the famous Gobelin looms obtained grays not by thinning weak colors, but by blending bright hues. So important was the Gobelin tapestry works in the French government scheme of things — the color range has ever been a state secret — that prolonged and painstaking investigation was made by the government when at one period the colors appeared to have lost the traditional richness of tone quality. The research revealed that the only changed condition was the removal of an ancient slaughter-house from the banks of the Seine, upstream from the dye works. The slaughter-house was restored, the river waters regained the original chemical content, and once again the Gobelin tapestries obtained the fidelity of the prized color brilliance.

Typifying the colorful tapestry color-styling of the Renaissance was the "Lady of the Unicorn" series made at Loire in the 16th century, with a rosy red background dominating even that remarkable picture-story. Blue damask and flaming gold are set off from the background in the color of the tent, and strong contrast marks each of the six hangings of the group.

1856 — The First Organic Dye

But it was during Victoria's reign that man found freedom from dependence upon nature's bounty to satisfy his need for color. In 1856 Arthur Perkin invented the first organic dye — typically, mauve was the first synthetic color produced. Described as "pink trying to be purple," it may have symbolized both the inner life and the color taste of the century.

Now, freed from the limitations of natural sources for color in finishes, dyes, materials, and printing, man has entered an era in which his application of color is limited only by his own taste and ingenuity.

Experience, plus the accumulated knowledge of centuries, serves as the one true guide we have in finding the proper path to follow in meeting each color requirement.

A score of years ago, color was little used in manufacture. Rooms were painted in plain colors, and black prevailed in most items of popular use — the automobile, the fountain pen. Today, even caskets have adopted their appropriate, subdued colors. Face cloths, powder puffs, and blankets have changed from white to color.

This color cycle commenced with World War I, when surplus profits financed experimentation with color. Suddenly modern business men realized that color enhanced the appreciation of their wares — an almost-forgotten fact not unknown to the 17th-century earthenware potters of Delft or to the Flanders stoneware originating at Cologne in the Elizabethan era.

In the haste to climb aboard the bandwagon of commercial sales, the scientific aspect of color application was overlooked. Color was treated as a temporary fad, to be applied without too much consideration of aesthetic values or of the taste of the individual. Automobile manufacturers raced into rapid changes of color every three months, piled hue upon conflicting hue. It required the better part of two decades for the taste of the individual to assert itself.

As early as 1902, a far-seeing magazine publisher had devoted considerable research to the impact of that 20th-century miracle of individual ownership — the private automobile. Accurately he predicted the date when it would adopt national advertising policies (1909), installment selling (1920) and color treatment as a means of selling (1925). By 1929 each motor-maker had his color engineer.

Color in the Market Place

We have been interested in this color history, not in the color mannerisms of the atelier, but in the development of color in its market-place service to mankind — in his personal ornamentation, in his home, in the creature comforts he employs. The genius of artistry has stood behind the development of color uses for practical applications — and in many cases its relics have mirrored the taste of civilizations otherwise lost to us.

Today, more than ever before, the gap has narrowed between use of color in art forms and use in everyday life.

Colors that sell today are determined from indications that flow from all sources — traditions, style events of the past, fashions, contemporary and historic art, advertisements, movies, and the living world about us. With added facilities in producing color, there has come new fluidity in public fancy. Two-a-year style seasons — arbitrary periods of color choice — are subject to subtle influences of some change in color taste at any time. To meet the dangerous possibilities of such changes in taste, we have kept up with contemporary needs by developing the survey method of reading the barometer of popular moods.

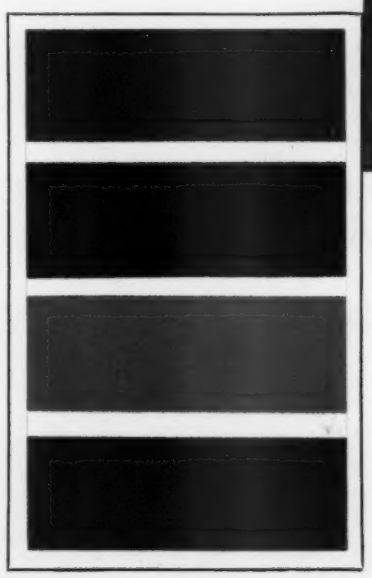
A falling market in blankets is met with an array of new blanket colors keyed to current innovations in home decor. New impact is given to advertising by use of color, whose effect multiplies the force of the message from 24% to 54.1% — by actual test.

Our dyers develop newer — richer or more subtle — colors for fabrics. Our plastics industries develop filaments and coatings for fabrics which offer new horizons in color treatment — and our staple supply sources pursue new processes which meet the competition for color appeal. Our glassware industry shatters a myth that medieval talent cannot be duplicated by modern skill; ceramics sources develop 15,000 hues to compete with the genius of past centuries. In France, leaders in art offer their talent to a revival of past glory in tapestries.

✓ ✓ ✓

We have had the Golden Age . . . the Age of Culture . . . the Ages of Renaissance, Agriculture and of the Machine. We now are crossing the threshold into the fullness of the Age of Color and Design. We shall see color exerting to the fullest its power over form in design. And we shall see it taking its proper place as a real force in our mercantile and industrial civilization. • **END**

Sung Dynasty Painting — Courtesy Metropolitan Museum of Art



"The Bird on the Flowering Branch" (a painting on silk in the possession of the Metropolitan Museum of Art) illustrates the preference of the Chinese for the wonderful delicate colours which have characterized Oriental art in its varied manifestations.

SIMPLICITY versus GRANDEUR

T. H. Robsjohn-Gibbings, designer-decorator, author of "Goodbye, Mr. Chippendale" and "Mona Lisa's Mustache"; leading exponent of the spacious, uncluttered school of decoration, and Rose Cumming, celebrated designer of fabulously elegant period interiors, express their widely divergent opinions on fabrics.

I find most fabrics too elaborate. The most difficult thing to find is a good, plain, durable fabric of agreeable texture in a wide range of colors. Plain fabrics, when used as draperies, especially when used with plain walls of matching color, give a sense of space to the small rooms most of us are living in today. When I do use a patterned fabric, I like to bring it *into* the room, away from the walls and windows. Then I use strong, bright color such as emerald green, daffodil yellow, orange or vermilion, as one would place jewels against a plain background.

"I am against the use of abstract design in fabrics, because I believe it to be a cult, and I am against cults. The use of metallic fabrics in the home seems to me out of place — as would be a woman wearing gold lame in the morning. Many of the new fabrics seem to have been designed to create a sensation in showrooms rather than for everyday use. People are more important than patterns, and visual peace is the quality to bear in mind rather than showiness when choosing fabrics with which to live."

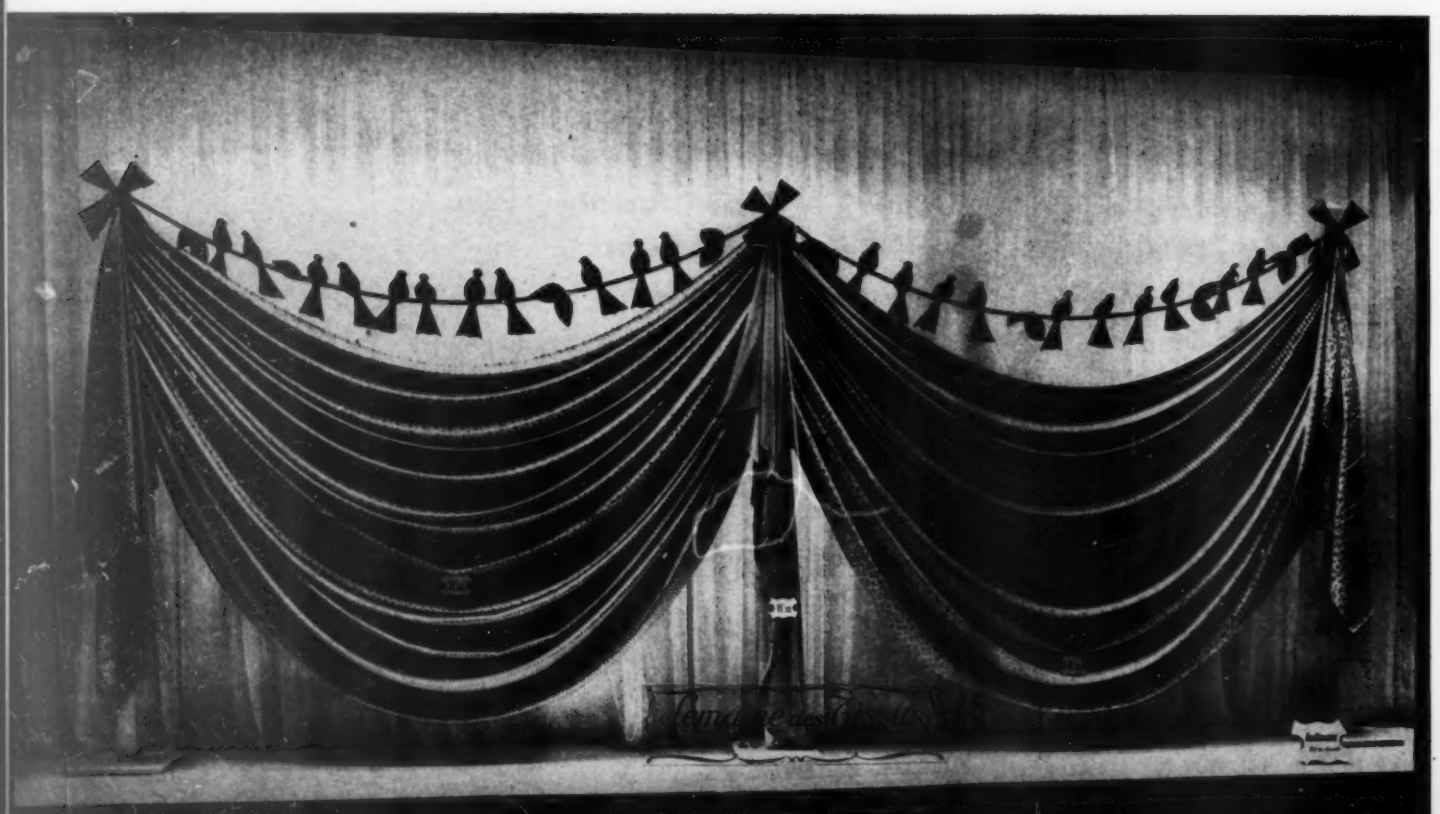
T. H. ROBSJOHN-GIBBINGS

"In choosing fabrics for a room scheme, I put glamour first, and even serviceable fabrics must not look serviceable. I do not enjoy to decorate around a material whose texture is not pleasant to the touch. To me it is highly important in the enjoyment of a chair that one be able to lean one's face or one's hand against it and not find it rough.

"The most beautiful colors to me are those of the Far East. It was during a visit to Ceylon a number of years ago that I acquired my love of the purples, plums and violets. The riot of color seen in the bazaars gave me my appreciation of the brilliant, vibrant pastels, the yellows, oranges, cinnamons and burnt siennas, which I brought back to America with me and applied to my own decorating. It was there, also, that I discovered the importance of black in a room scheme which is so little used in most American homes. I love to use fabrics that refract the light, such as satins, velvets, taffetas and brocades. In doing a room where more restraint is called for, I like brocatelles, crude silks, reproductions of 17th Century taffetas with a heavy weave. But whatever I do, it *must* have glamour."

ROSE CUMMING

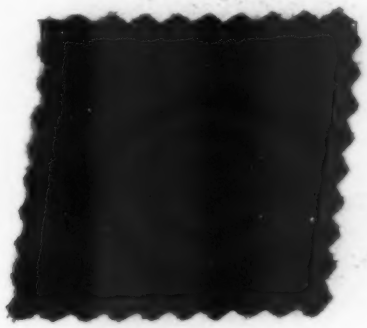
. . . FOR THE PIECE GOODS DEPARTMENT



AMERICAN FASHION FABRICS PORTFOLIO

Fashion Begins with the Fabric . . . and in this specially swatched Portfolio, American Fabrics brings you some of the season's current Fashion Fabric Hits . . . Fall, 1948.

Robaix's Taiga Twill, recommended particularly for sportswear and over-the-counter sales.



Lakme, a new velvet available in soft and crisp finishes. This silk back velvet is a recent development of Martin Fabrics Corp.

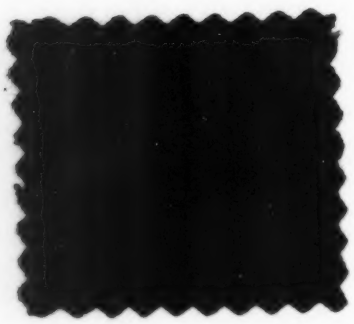
Tegra by Labtex . . . this perennial sportswear favorite is shown in a new color, Burnoose, taken from the collection at the Costume Institute of the Metropolitan Museum of Art.

Heavy, all silk fabric by Drama . . . pure silk taffeta closely woven for rustling evening gowns and crisp suitings . . . in 8 timely shades.

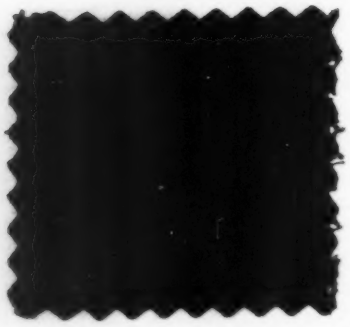
William Whitman's 100% worsted Sheen, recommended for use in both suitings and coats.

Diamondteen . . . a Crompton-Richmond printed twill back velveteen, for children's . . . boys' . . . women's wear, and over-the-counter.

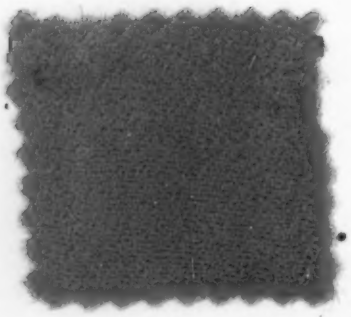
Kenfrew — Crompton-Richmond's famed pinwale print sold over-the-counter and for boys', men's, women's wear.



Shirley's rayon and cotton lustrous bengaline comes in a wide range of milk pastels and burnished dark colors.

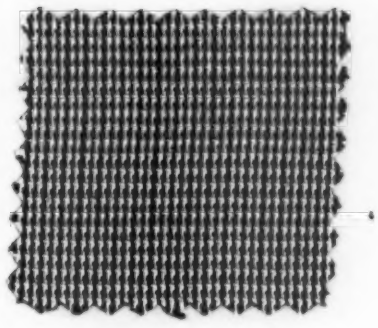


Wesley Simpson's cotton taffeta, Rustler . . . a new feeling—especially designed for fine dressmaker collections.



New and crush-resistant without treatment, Vanetta's "Velstar" is a high twist acetate and pile crepe velvet (Tennessee-Eastman and American Bemberg yarns.)

Original styling in woolens features this diminutive Tartan plaid by Cerey.



Chicorichec by St. George . . . an interesting Viscose and acetate blend in small checks for women's wear, men's wear and piece goods departments.

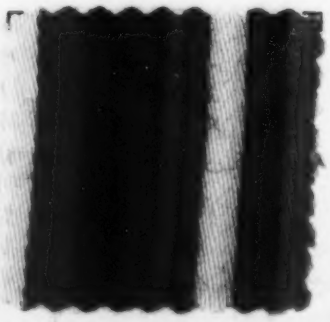
A handsome pure dye silk dress fabric in impressionist colors by Stotter.

An Avondale chambray treated with American Cyanamid Superset, the new shrink resistant finish for cotton.

Suskana's Aladdin broadcloth — a pure wool coating distinguished by a sleek lustrous finish.

A year round favorite, Lorraine's 100% wool—7½ oz. all-worsted gabardine.

A four-ounce printed worsted, completely washable (American Institute of Laundering guarantee) introduced by Gildesgame Fabrics.



Shamokin's multi-colored wool stripe, strikingly brilliant in conception and coloring.

letters to the editor

TO THE EDITORS:

On page 126 of AMERICAN FABRICS No. 5, 1948, under the heading: "Names of Men Famous in Textiles," you refer to a man with the name of "Josue Heilman" and stated that "by watching his daughters wash and comb their hair this Alsatian conceived the idea for combing wool fibers into worsted stock. The machine known as the comb is an invention of Josue Heilman."

I think you are mistaken here. The combing of wool with a comb was done long, long ago, and as evidence I would suggest that you read the article and consult the illustrations given in that article by Dr. Raistrick in the Journal of the Bradford Textile Society.

On the back of that Journal there is also the drawing of a comb which was used for combing wool by ancient Brigantines nearly 4,000 years ago in this area — that is, in pre-historic times — in other words, as long in time before the Romans came to Britain as since they left. Bradford . . . can justly claim that on the countryside near Bradford, nearly 4,000 years ago, wool was made into worsted fabrics, employing the same principle of combing in Brigantine days as we use today!

Mr. G. G. Hopkinson
Hopkinson & Shore Limited
Yorks, England

TO THE EDITORS:

I am ordering one year's subscription to American Fabrics for Miss Alma Rubeling as an "honor book" for the Junior Home Economics Student with the best Scholastic record.

Elizabeth J. McKettrick
Division of Home Economics
U. of Wyoming

TO THE EDITORS:

Am intensely interested in the question of heat in fabrics. For example as you know, wool does not keep the person warm in itself. Wool has no warmth, neither has fur. Air pockets in the fibers are heated by the body and these, in turn, heat the body. Such books as American Wool Hand Book, pages 158 and 159, and Matthews Textile Fibres deal with this subject. Everybody knows them. As I told you, I had an anthropologist do some of the work on the Eskimo.

However, just to give you an idea of the question of heat note these sentences taken verbatim from the above books:

Page 553: "There is a wide divergence of opinion regarding the warmth of wool as compared with cotton silk or rayon fibres . . . there is a lack of data and discrepancy in the results."
Page 72: chapter headed, "Microscopic and Chemical Properties of Fibres." ". . . there is considerable difference in the thermal conductivity of various textile fibres. Yet the effect of the entrapped air, according to Illingsworth, is so great that it is now generally agreed: that woolens or cottons are as warm as flannels, if made equally cellular in fabric structure."

We could do some work on our our own. Would like to see this subject on the wool fibre and how it retains heat and gives heat in your editorial pages. It would make a wonderful article. It could be illustrated with great force. Even to the textile experts this would be a revelation. As for the selling agents they would learn something. In doing this, you would be a little bit ahead of the parade.

Mr. J. Lustberg
Lustberg, Nast & Co.
212 Fifth Ave.
New York 1, N. Y.

TO THE EDITORS:

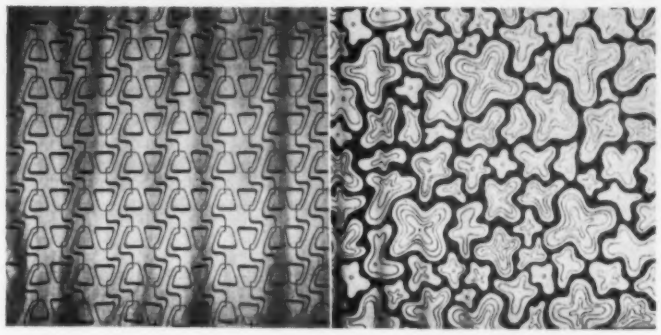
We are looking forward to your number on hand weaving as announced in your sixth number of AMERICAN FABRICS. Hand weaving on this continent stems from two sources; first, from Normandy, from where most of our present French Canadians emigrated and now comprise the province of Quebec, and the largest number of weavers from England, Scotland, Ireland, and Germany, who settled along the Appalachian coastal plain from Labrador to Georgia. Most of them settled throughout the latter sixteenth, seventeenth, and eighteenth centuries. Wherever they moved back into the mountains, or wherever they settled in the isolated ports, their handicrafts have survived. The last thirty years have been marked by a revival of handicraft in general and of weaving in particular throughout this region.

You may be aware that there are 70,000 hand looms working in the province of Quebec. This in large measure is due to the provincial Department of Agriculture, under the late Mr. Oscar Beriau and the present director, Mr. Emile Gauthier. There have been large developments in the other provinces. Our own Home Weaving Service is less than a year old. The enclosed bulletin and an article in "Ontario Government Services" are sent with the hope that they may be interesting to you.

These facts are brought to your attention with the hope that you will treat hand weaving as a historic North American phenomenon rather than a national growth only.

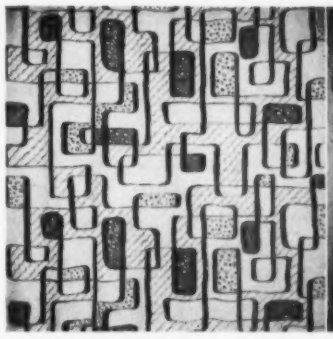
J. Banigan, Director
Dept. of Planning & Development
Ontario, Canada

(Editor's Note: "Hand-weaving" — a comprehensive survey will be featured in Issue No. 8 of American Fabrics.)



VICE-VERSA

CONTOURS



INTERLOCKED

ANTENNA

TO THE EDITORS:

We are anticipating eagerly the extension of the scope of AMERICAN FABRICS to include drapery and upholstery fabrics, and are certain that your presentation of these will be outstanding and that the relative material will be keenly interesting. The first six issues of AMERICAN FABRICS have exhibited the epitome of progressive organizing and editing, and excellent typography and reproduction skillfully applied to substantial material.

We are sending herewith photographs of four of our contemporary hand printed drapery fabrics. These, we believe, fairly express our stand as experimentalists in contemporary design, materials, and effects. We are concerned with meeting the fabric and design requirements of contemporary architects and interior designers, and with introducing a new vocabulary of fabric expressions,

Henry C. Kluck
Elenhank Designers, Chicago, Ill.

TO THE EDITORS:

I am a non-objective painter and my first impression was that AMERICAN FABRICS was one of the most beautiful magazines I had ever seen. Later I began to be intrigued by the possibilities of fabric design and the fact that the field seemed to be looking toward something quite different from the old hackneyed ideas.

Of course, I made some designs. Then came the problem of trying to sell them without having any contacts at all. The best advice I could get was simply to go the rounds. Everyone was very nice, but the only response I could get was that these designs did not seem to fit their line at present. I could not discover what they wanted nor even what season they were styling. It was suggested several times that I go to the department stores, look carefully at what they were selling, and then try to do exactly the same thing!

I . . . would like to design for fabrics, however, and I am sure that there is some approach which I have missed.

Dwinnel Grant, New York, N. Y.

Note: In the Number Five issue of American Fabrics on the "Survey of Persian Art" of the Near and Middle East, we failed to credit Oxford University Press for many of the illustrations which appeared. We wish to acknowledge this generous source to our readers.

THE CONSUMER

The millman, the converter, the apparel manufacturer, the retailer, the retail clerk . . . all throw at Mrs. Consumer words and phrases as selling blandishment . . . all assuming that she knows what they're talking about. Sadly enough, it's gibberish to her. And so writer Cora Carlyle gathers a group of typical

Q. How are iridescent effects produced in moire or warp prints?

A. This iridescent or "changeable-effect" is arrived at by the use of one color warp and another color filling. As the lights strike the material the one or the other color is reflected.

Q. What is a "cobblestone effect" or "cobblestone check?"

A. It is a small, irregular check design so woven that the fabric has a pebbled surface — hence, the name. May be produced by certain novelty yarns, twist in the yarn, or small "birdseye" effects in the weave construction.

Q. Is it true that there is a difference in the weight per yard when a British imported fabric is compared with a domestic material? Recently I heard a textile man say that an 18-ounce British woolen was not the same weight as an 18-ounce fabric made here. This statement intrigued me; please answer, if possible.

A. The statement is true. British imported fabrics are based on a 58-inch finished width to a 37-inch yard with one-quarter of a yard "thrown in" in every ten yards for "good measure." This, incidentally, really gives a 38-inch yard.

The 58-inch by 38-inch yard gives 2204 square inches to the piece yard against the domestic yard of 56-inches by 36-inches or 2016 square inches in the yard. Thus, an 18-ounce British weight would be the equivalent of a 16½-ounce domestic:

$$\frac{18 \times 2016}{2204}$$ equals 16.5, the approximate weight of the domestic fabric in ounces per yard.

Briefly, it may be stated that the American cloth is approximately 11/12ths the weight of a comparable British woolen fabric.

Q. Is there a type of printing in textiles known as Jap or Tjap Printing?

A. Yes. Known as Tjap Printing, it is a type of block printing done on textiles by means of dipping blocks into heated wax and then impressing them onto the material. Cotton or silk fabric is used. The next step in the procedure is to dye the cloth and then remove the wax, thereby leaving a permanent design.

These blocks are made by the natives in the Malay States. The Javanese do considerable printing by this method. They bend small strips of copper into the desired curves for sections of the pattern and insert these into the end grain of the blocks of wood, allowing them to project a little less than one-eighth of an inch from the surface.

The small copper ridges formed in this manner are comparable with the cloisons which are used to keep enamels separated in the decoration oft noted on cloisonné ware.

Because the work is difficult and much time must be expended in the production of the finished goods, these prints command a high price in the trade.

Q. When tie silk dresses are advertised, are they made from the same silk that makes up men's ties?

A. Yes, usually, and the patterns are traditionally the same small geometrically-designed, symmetrically-designed or stylized floral prints such as used in foulards. The weave construction is usually a twill made with soft twist in the yarn which makes for good draping effects.

Q. Besides taffeta, moires, etc., what are some other "crisp" fabrics?

A. If all the questions were like this, Cora, my work would be a delightful pleasure; organdie, marquisette, tulle, glazed chintz.

Q. What textile fibers can be used in making broadcloth?

A. Cotton for broadcloth shirting; wool for broadcloth, the lightest weight fabric in the group of melton, kersey, beaver and broadcloth for women's wear; Nylon, rayon and silk are also used to make fabric of this name. Blends are now being used to make the fabric, as well. Broadcloth, as a textile term, is one which has a very broad and varied meaning such as crepe, sharkskin, satin, alpaca, backed cloth, suede, challis, denim, etc. I have seen seventeen different interpretations of the word cashmere, Kashmir, etc.

Q. Are the terms, Textile Technologist and Textile Technician, considered to be interchangeable? I was of the opinion that the Technologist has more responsibility than the Technician. Are they considered professions, vocations or trades?

A. This is a very timely question. First of all they are professions and not vocations or trades; the mental phase has to be present to supplement and interpret any physical or manual findings.

The Textile Technician must be able to analyze fabrics from beginning to end so that they can be reproduced by the mill. He must be thoroughly conversant with fibers, yarns and weave constructions, and at the same time be familiar with the various mill operations; he does not, however, actually have to be a carder, spinner, weaver or finisher. The Technician may know little or nothing of these mill operations from the standpoint of actually knowing how to run any of the mill machines.

It is not the duty of the Technician to inform a mill how

WANTS TO KNOW...

Mrs. Consumers from time to time . . . asks them what they'd like clarified in textile terms . . . and then fires the questions at Dr. George Linton. Here is the sixth batch. The moral is: Just because you know what you mean, don't take it for granted that the other person does.

to do the work; this should be covered in entirety by the mill management.

The Technician is usually a graduate of a Textile School or Textile Institute but his textile knowledge or background may be gained through association or by working with a Fabric Textile Technologist for a period of about five years.

The Fabric Textile Technologist must of necessity be a fabric technician but his task begins where the work of the technician terminates. He must have a thorough knowledge of fiber and yarn research, textile research, fabric development, dyeing and finishing and all other converting problems and relations. In addition, he must be able to diagnose yarn and fabric defects and to advise the plant how these defects may be remedied. This latter knowledge may only be gained through textile school education, along with mill and manufacturing experience. The Technologist must be well acquainted with all chemical and physical phases necessary to the production of the finished fabric.

Q. How can I tell the difference between a rayon corduroy and a cotton corduroy?

A. First of all, it would be necessary to find some corduroy made of rayon; there is little on the market today. Corduroy has been made experimentally in the rayon field for some little time. The drawback seems to be that it has the tendency to crush. Trials of various runs have been made to overcome this difficulty. Chances are that in due time a durable finish will make rayon corduroy satisfactory in the wear test, and in washing and dry cleaning.

When treated rayon corduroy is finally on the market in quantity, it should be labeled according to the Federal Trade Commission Rules for the Rayon Industry — then you will be able to identify it.

Q. Why do so few hand weavers work in silk?

A. Hand weaving, it may interest you to know, is done by over 110,000 persons in this country and Canada — quite an industry! Silk is very difficult to manipulate on hand looms and the time and energy expended is not worth the effort.

In addition, at the present time the quality, weight, desirable twist, etc., of silk for hand weaving cannot be found; it is not procurable. The other maior fibers are easier to work in the loom and it does not take nearly the length of time to actually see results as is the case in silk weaving.

Q. After the silk is unreeled, how are silk filaments twisted?

A. Read this answer carefully — the silk filaments are not twisted "after the cocoon is unreeled." Here is how it is done: the cocoons themselves, with the worm still inside but lifeless because of the steam treatment or stoving, are placed in warm water. The operator brushes off the outside filaments (really short fibers) that are attached to the cocoon. Then she finds the beginning of the real filaments on each cocoon (there are two of these from each cocoon cemented together by the silk gum or sericin).

The operator then places from two to ten of these filaments together and draws them through the machine which will give a slight twist — just enough so that they will sustain themselves.

Later on, when it has been decided what use is to be made of the silk, the proper number of turns per inch for the commercial yarn is applied by machine. This mechanical twist to give desired strength to the yarn for actual usage may be "S" or "Z" twist or a combination of these two twists.

Q. What weight broadcloth is best for a coat? For a suit?

A. This is a very broad question that somewhat defies an answer. Don't you think that consumers today, for the most part, take just about what they can get? There does not seem to be too much of a variance in weights and the customer is rare who asks for a coat or a suit by weight, if it be broadcloth for a shirt, a women's wear suiting, or any other use covered by the term which is pretty well bandied about as to meaning.

Q. What is uncut velvet and is it always expensive?

A. Without becoming too technical, uncut velvet may be stated as being that which has not been sheared. Yes, it is always expensive compared with other fabrics of similar use but which require less time and labor for commercial value.

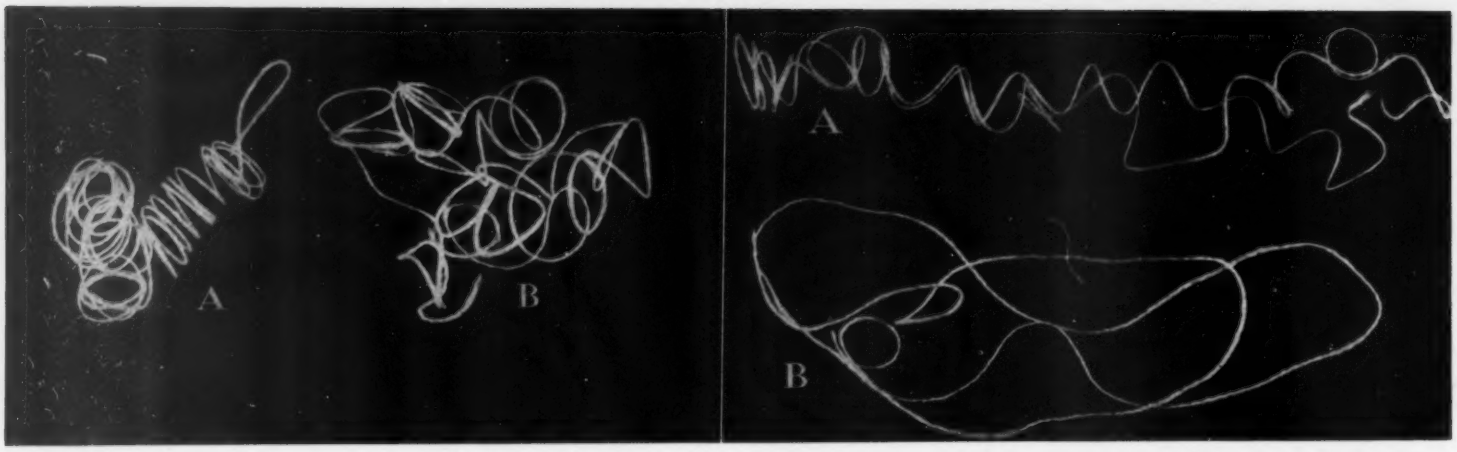
Q. Men seemed to choose cotton summer suits in a big way; are they really cooler?

A. Yes, by all means. And another reason why men are buying cotton suits is that for the first time since the war period, cotton cords, seersuckers, etc., are available. These fabrics are highly desirable since the fabrics are treated with durable finish for wrinkle-resistance and shrinkage control. No starch is required in laundering and they dry clean well.

Q. What does the word "bellwether" have to do with sheep, if anything?

A. It has quite a little to do with sheep. A wether sheep is one that has already been shorn and in this way differs from a hoggett or unshorn sheep. When flocks of sheep go to pasture in the summer, there is one wether sheep in a flock of every hundred or so ewes and lambs.

The wether carries a bell around his neck, hence the term bellwether. It is also interesting to note that there is a black sheep sent along with the group. Thus, if either sheep is missing at checking-in time by the shepherd, chances are that some of the ewes and lambs will also be missing. The shepherd then has to make a thorough check on missing sheep and then make every effort to corral the absentees.



Both threads shown above were wrapped around glass rods and heated at 150°C. Thread A had been treated in the bath containing Superset Resin; Thread B was wet in water only. After glass rods were removed, Thread A looks as it did on glass rod, while Thread B has only a few coils left.

This picture was taken after the two threads shown in Figure 1 were both wet out in water. Thread B has completely lost the form it had on the glass rod, while Thread A which had been treated with Superset still is set in the coil form.

The photomicrographs, above, show how yarns, hence fabrics, are stabilized by the application of Superset Resin. The treated yarn is "set" in the relative position it assumes during impregnation and curing. On subsequent wetting and drying the treated yarn springs back to its original position. The untreated yarn becomes limp and unmanageable. The stabilization illustrated here demonstrates how wrinkle resistance and shrinkage control are eventually imparted to a fabric treated with Superset Resin.

CREASE-RESISTANT COTTONS—A REALITY!

New Superset Resin Finish adds hitherto unattainable features — including high degree of crush-resistance to varieties of cotton fabrics.

NO OTHER fiber has had the worldwide acceptance that cotton has had. During the colonization of the 18th and 19th centuries cotton calico was an accepted medium of exchange in South and Central America, Africa, the Near East and the Pacific areas. Native kings were bribed, warfare averted and fortunes made with cotton.

This high position of cotton was because of the beauty, intricacy, and the great variety of designs that it was possible to produce on cotton fabric. Also greatly in cotton's favor, as the world became more inclined to cleanliness, was the fact that cotton fabric could be safely and easily washed.

But cotton had certain disadvantages. It lacked the resilience of silk or wool and consequently tended to crease or crush, and these creases were retained by the fabric. This disadvantage has become more important with the development of man-made fibers and fabrics which can compete economically with cotton and do have resilience. The National Cotton Council at its last meeting voiced the need for a finish that would give resilience and wrinkle-resistance to cotton. The Cotton Textile Institute foresees the widespread application of a crush-resistant finish having effects as broad and as important to the merchandising of cottons as was occasioned by the development of the Sanforizing process.

Crease-resistance and Stabilization of Fabric

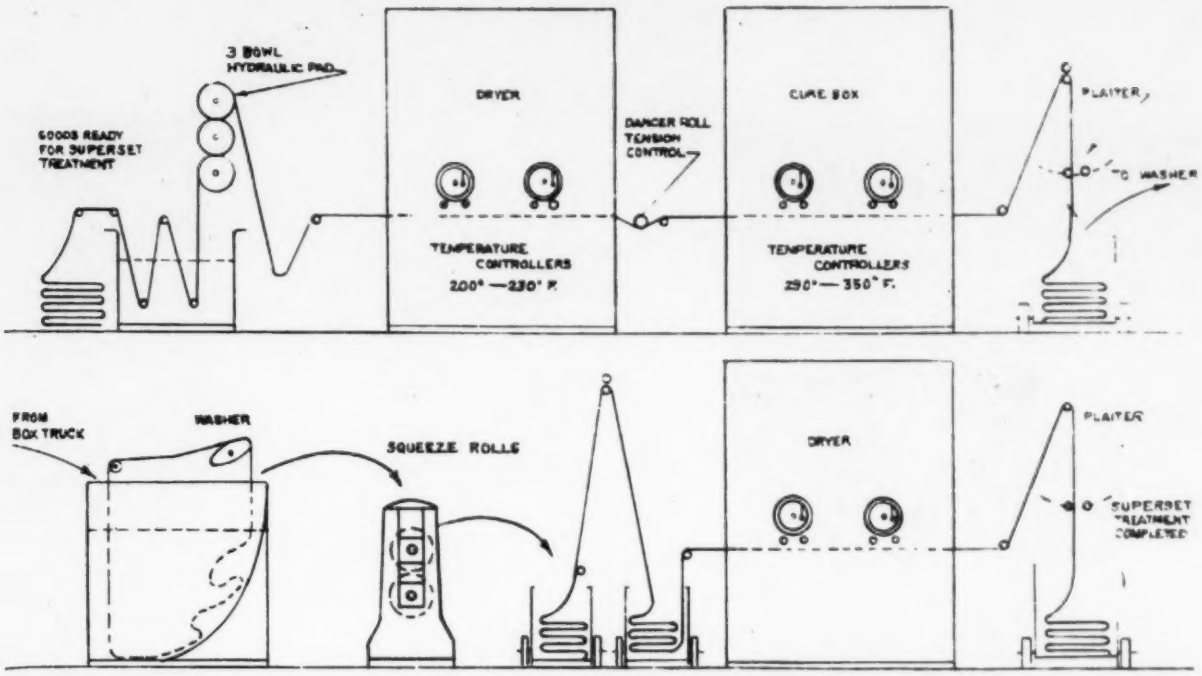
The recent announcement, therefore, by the American Cyanamid Company of a finish that is claimed to add a considerable degree of resilience to cotton is of interest to the entire cotton industry. The fact that the finish also stabilizes the fabric, providing the highly desirable factor of shrinkage-control at the same time that it gives crease-resistant properties, is a plus factor.

For years chemists had unsuccessfully attempted to find a finish that would accomplish these results for cotton fabrics. In the 20's a successful crease-resistant finish for rayon fabrics was developed, using urea resin. However, this finish was impossible for application to cotton for a number of reasons. With the development of melamine resin which was used successfully to treat wool for shrinkage-control, it was hoped that the problem of treating cotton might be solved, but it was found that even the melamine resin had a serious disadvantage — it markedly weakened cotton fabric, causing an average loss in tensile strength of about 20 to 25 per cent. Heavy constructions could be successfully treated, but the great mass of cotton fabrics — chambrays, ginghams, piques, dress goods and seersuckers — could not stand this tendering. Now the new Cyanamid finish has successfully been applied to all of these fabrics and many others, and the results show greatly added crease-resistance with little or no loss in tensile strength.

This new product was developed almost two years ago in the laboratory. After a great deal of laboratory research, tests were made last year in one of the very large cotton mills and a little later in other mills. These plants together represented production of practically all types of cotton fabrics.

Characteristics of the Finish

The characteristics of this new product, which Cyanamid calls SUPERSET Finish, as proved in these mill trials may be summed up as follows: the finish is highly durable and after five standard AATCC cotton washes, and after extensive dry cleanings, it still retains its effectiveness. Tested on cotton fabrics of varying types from chambray to seersucker and cord, shrinkage-control of 2 per cent or less has been obtained. If desired, fabrics treated with SUPERSET Resin may be Sanforized in the usual manner. Crease-resistance figures by the T.B.L. method of evaluation are from 3 to 3.5 in both warp and filling directions, as compared with the untreated fabric figures of from 1.2 to 2. The maximum loss in tensile strength incurred in any of this large range of fabrics is 10 per cent. Most frequently no loss in tensile strength was shown, and in some cases there was an actual increase in strength. The liveliness and resilience of the fabric give it qualities somewhat different from untreated fabric. The hand of the fabric, prior to washing, is changed, due principally to an increase in weight. Starching is not necessary, ironing is easier, and there is a definite



PROCESS FLOW SHEET

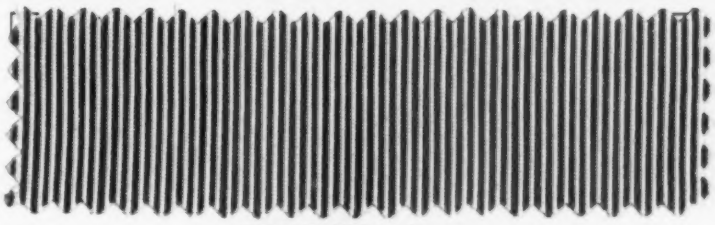
(for Superset Resin application)

resistance to soiling. The tendency of cotton to lint and fuzz is inhibited. As is true with all resins, SUPERSET Finish improves the wash fastness of colors.

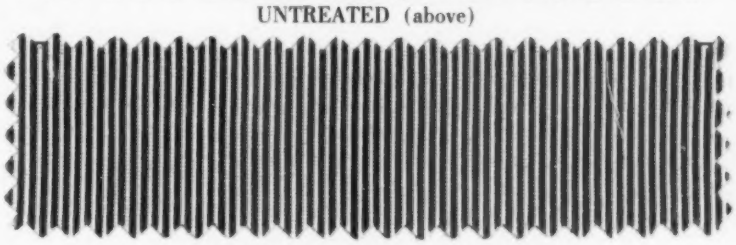
Of utmost importance to cutters is the fact that dressmakers and tailors, who have worked on the fabric, have estimated that the efficiency of cutting and sewing is increased from 20 to 30 per cent. It is interesting to note that the sales representative of one of the mills cooperating in the test runs was called by a cutter who said, "What are you doing to this new fabric?" The sales representative was worried until the cutter added, "Why, it's a pleasure to work on it."

The application of the finish to cotton goods generally follows normal procedures used for application of resin to fabrics. Certain instructions should be followed with regard to the mixing of the chemicals in the bath, but these present no particular difficulty. Impregnation is carried out with a 2 or a 3 bowl padder, the latter of which is preferred because of thoroughness of impregnation. Processing requires no special unit other than the curing unit which is standard equipment in most finishing plants.

Materials to which the finish has been successfully applied include chambray, jeans, cords, twills, gingham, piques, seersuckers, denims, and corduroys.

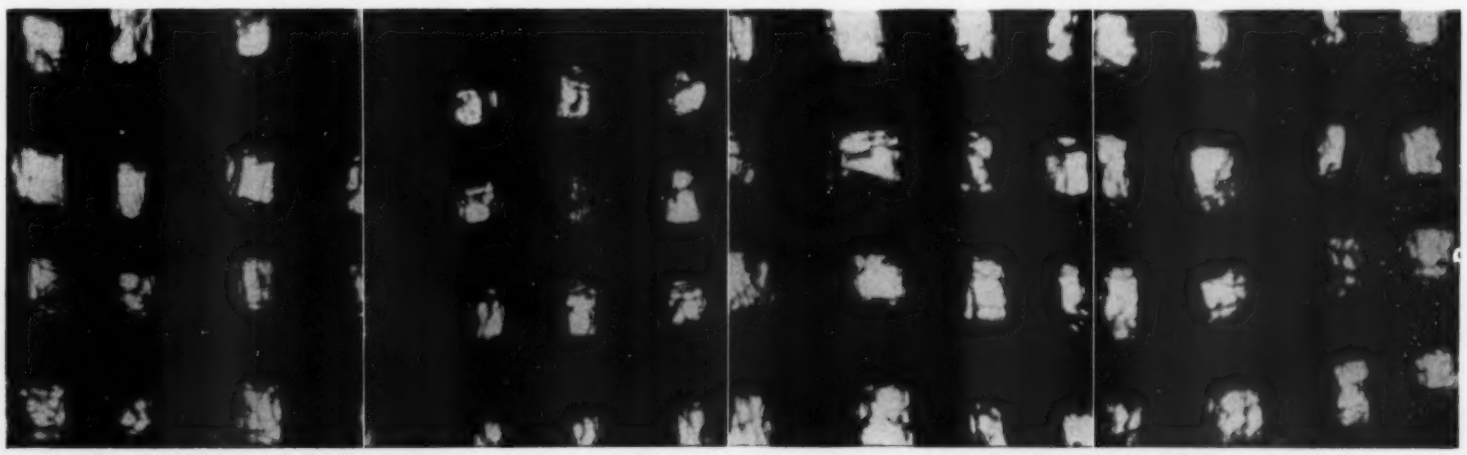


UNTREATED (above)



TREATED WITH SUPERSET RESIN

Above are two samples of Avondale "Coravon" combed yarn cord fabric, one treated with Superset Resin, the other untreated. The treated cord fabric gives a crease resistance rating of 3.3 in both warp and filling; a shrinkage of less than 1½%; no loss in tensile strength when compared with the untreated. Treated cord fabric does not need starch in laundering.



FABRIC CAN "BREATHE" EVEN AFTER LAUNDERING: These photomicrographs show that Superset Resin treatment stabilizes the individual cotton fibers in the threads, thus maintaining porosity of the treated fabric. The samples here are highly magnified to show threads and the openings between, with some of the stray cotton fibers from the threads visible in the openings. *Figure 1* — Original 80-square cotton cloth without Superset Resin treatment. *Figure 2* — Original cloth washed one hour. Some shrinkage has taken place, resulting in smaller openings between threads. Porosity is thus lowered as much as 40 cubic feet per minute per square foot. *Figure 3* — Original cloth treated with Superset Resin. *Figure 4* — Superset Resin treated cloth, same as in Figure 3, but washed one hour. Openings are similar in size to those in Figure 3 before washing, and to those in Figure 1 untreated. Porosity of washed Superset Resin treated sample was lowered very slightly — only 10 cubic feet per minute per square foot.

Photomicrographs Courtesy Microscopical Laboratory, Calco Chemical Division, American Cyanamid Company, Bound Book, New Jersey.

THE "PA PAO"

Buddhist Symbols of the Eight Precious Things — Emblems of Happy Augury

I

THE PARASOL, the symbol of majesty which keeps away the "heat of evil desires"

THE VASE, which contains the heavenly elixir called by the Chinese "sweet dew." It is the "treasury of all the desires"

THE SEA SHELL, the symbol of holy victory and the "blessedness of turning to the right"

THE STANDARD, the symbol of the victory of Buddhism over other religions

THE FISH OF GOLD, the symbol of the joining of happiness and utility, and, in China, the yang and yin, or male and female elements

THE LOTUS, the symbol of divine purity. It is the "pledge of salvation or Nirvana"

THE MYSTIC DIAGRAM, the symbol of the "thread which guides to happiness"

THE WHEEL, the symbol of the Buddhist doctrine "which leads to perfection"

Taoist Symbols of the Eight Precious Things Which Are the Attributes of the Eight Immortals

II

THE FAN of Chung-li Ch'uan (also called Han Chung-li)

THE PILGRIM'S GOURD of Li T'ieh Kuai, patron of astrologers and magicians. From the gourd issue clouds and apparitions

THE FLOWER BASKET of Lan Ts'ai Ho, patron of gardeners and florists

THE FLUTE of Han Hsiang Tzu, patron of musicians

THE SWORD of Lu Tung Pin, the warrior Immortal, patron of barbers

THE CASTANETS of Ts'ao Kuo Chiu, patron of mummers and actors

THE BAMBOO TUBE AND RODS of Chang Kuo Lao, patron of artists and calligraphers

THE LOTUS of Ho Hsien Ku, patroness of housewives

THE PARASOL

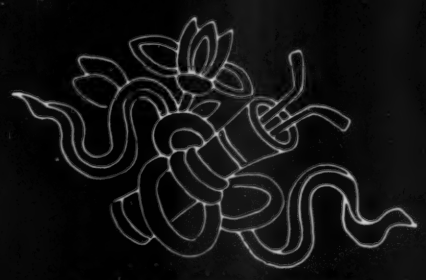
THE VASE

THE SEA SHELL

THE STANDARD

THE SWORD

THE CASTANETS

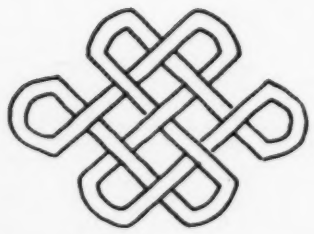


THE BAMBOO TUBE
AND RODS

THE LOTUS

THE FISH OF GOLD

THE LOTUS



THE MYSTIC DIAGRAM

THE WHEEL

THE FAN

THE GOURD

THE FLOWER BASKET

THE FLUTE

From the Note-book of

Ralph Waldo Emerson . . . . . .

No carpenter's rule, no rod and chain, will measure the dimensions of any house or house-lot; go into the house: if the proprietor is constrained and deferring, it is of no importance how large his house, how beautiful his grounds, — you quickly come to the end of all; but if the man is self-possessed, happy, and at home, his house is deep-founded, indefinitely large and interesting, the roof and dome buoyant as the sky. Under the humblest roof, the commonest person in plain clothes sits there massive, cheerful, yet formidable like the Egyptian colossi.

* * *

There is a whisper out of the ages to him who can understand it, — "Whatever is known to thyself alone has always very great value." There is some reason to believe that, when a man does not write his poetry, it escapes by other vents through him, instead of the one vent of writing; clings to his form and manners, whilst poets have often nothing poetical about them except their verse.

* * *

Whatever makes us either think or feel strongly, adds to our power and enlarges our field of action.

* * *

Between simple and noble persons there is always a quick intelligence: they recognize at sight, and meet on a better ground than the talents and skills they may chance to possess, namely, on sincerity and uprightness.

* * *

That only which we have within, can we see without. If we meet no gods, it is because we harbor none. If there is grandeur in you, you will find grandeur in porters and sweeps.

* * *

There is no chance in results. With adults, as with children, one class enters cordially into the game, and whirls with the whirling world; the others have cold hands, and remain bystanders; or are only dragged in by the humor and vivacity of those who can carry a dead-weight. The first wealth is health. Sickness is poor-spirited, and cannot serve any one; it must husband its resources to live. But health or fullness answers its own ends, and has to spare, runs over, and inundates the neighborhoods and creeks of other men's necessities.

* * *

There is always room for a man of force, and he makes room for many. Society is a troop of thinkers, and the best heads among them take the best places. A feeble man can see the farms that are fenced and filled, the houses that are built. The strong man sees the possible houses and farms. His eye makes estates, as fast as the sun breeds clouds.

* * *

There is always a best way of doing everything, if it be to boil an egg.

We watch in children, with pathetic interest, the degree in which they possess recuperative force. When they are hurt by us, or by each other, or go to the bottom of the class, or miss the annual prizes, or are beaten in the game — if they lose heart, and remember the mischance in their chamber at home, they have a serious check. But if they have the buoyancy and resistance that preoccupies them with new interest in the new moment — the wounds cicatrize, and the fiber is the tougher for the hurt.

One comes to value this plus health, when he sees that all difficulties vanish before it. A timid man listening to the alarmists in Congress, and in the newspapers, and observing the profligacy of party — sectional interests urged with a fury which shuts its eyes to consequences, with a mind made up to desperate extremities, ballot in one hand, and rifle in the other — might easily believe that he and his country have seen their best days, and he hardens himself the best he can against the coming ruin.

But, after this has been foretold with equal confidence fifty times, and government six percents have not declined a quarter of a mill, he discovers that the enormous elements of strength which are here in play make our politics unimportant.

* * *

In hours of business, we go to him who knows, or has, or does this or that which we want, and we do not let our taste or feeling stand in the way.

* * *

Personal power, freedom, and the resources of nature strain every faculty of every citizen. We prosper with such vigor, that, like thrifty trees, which grow in spite of ice, lice, mice, and borers, so we do not suffer from the profligate swarms that fatten on the national treasury. The huge animals nourish huge parasites, and the rancor of the disease attests the strength of the constitution.

The same energy in the Greek Demos drew the remark, that the evils of popular government appear greater than they are; there is compensation for them in the spirit and energy it awakens. The rough-and-ready style which belongs to a people of sailors, foresters, farmers, and mechanics, has its advantages.

Power educates the potentate. As long as our people quote English standards they dwarf their own proportions. A Western lawyer of eminence said to me he wished it were a penal offence to bring an English law-book into a court in this country, so pernicious had he found in his experience our deference to English precedent. The very word "Commerce" has only an English meaning, and is pinched to the cramp exigencies of English experience. The commerce of rivers, the commerce of railroads, and who knows but the commerce of air-balloons, must add an American extension to the pond-hole of admiralty.

The outline of the feminine silhouette is a spectacle interesting and always changing. It's *FASHION*, characterizing times more than generals who won wars during the same period.

AS FAR AS I CAN REMEMBER . . .
A SERIES OF LITHOGRAPHS BY VERTES

1899: *The first silhouette I remember is naturally that of my mother. From my baby bed I could see her when, having kissed me goodnight, she stepped out of my room.*

1900: *The silhouette is very dignified. It looks as if the lady had swallowed her stomach — and pushed it backwards.*

1906: *Beautiful petticoats are falling over ugly high button shoes.*

1907: *How sad!!!*

1908: *Emancipation is on its way. You hear much about suffragettes. A Mrs. Pankhurst is making headlines.*

1910: *A Parisian "grand couturier" is sending*
her mannequins to the races in Auteuil and Longchamp wearing the "jupe culotte".

1912: *Diaghilev's Russian ballets influence . . .*
you see women in costumes of rajahs and princes of the Russian and Persian legends.

1913: *Mlle. Firzane, a famous French actress, is showing a new attitude: the advancing stomach. This position is adapted by women over the whole world.*

As far as I can remember . . . by VERTES

1924: *At this time the waistline is sliding down and women are having their hair cut. The elegant woman looks like a warrior, her "cloche," like a steel helmet, hiding her eyes.*

1926: *"Tell me more stories, grandma . . . !"*

1926: *"You are beginning to grow up . . . Next year we'll cut your hair and shorten your skirt . . . "*

As far as I can remember . . . by VERTES

1930: *American girls just arrived in France*
are making sensation with their hats pushed backwards. . . .

It is for the first time that America
has her word in fashion. . . .

1929: *The "beret basque"*
is king — you see it on all heads
especially in Deauville and
at the Riviera. Very often this
four franc beret is adorned
with a 40,000-*franc diamond brooch.*

1928: *A little bit more hair . . . bangs are a great success. . . .*

1940: *"My little hat isn't funny any more. . . ."*

1944:

1946:

The padded shoulders had a very long life . . the "New Look" has finished them. . . .

1943: *The first pictures coming out of Paris during the German occupation are showing outgrown hats and turbans — large enough to make the victor nervous.*

1937: *Just before World War II a French modiste is launching a little doll hat — which women love the world over. Grandmothers are wearing it as well or not so well as young girls.*

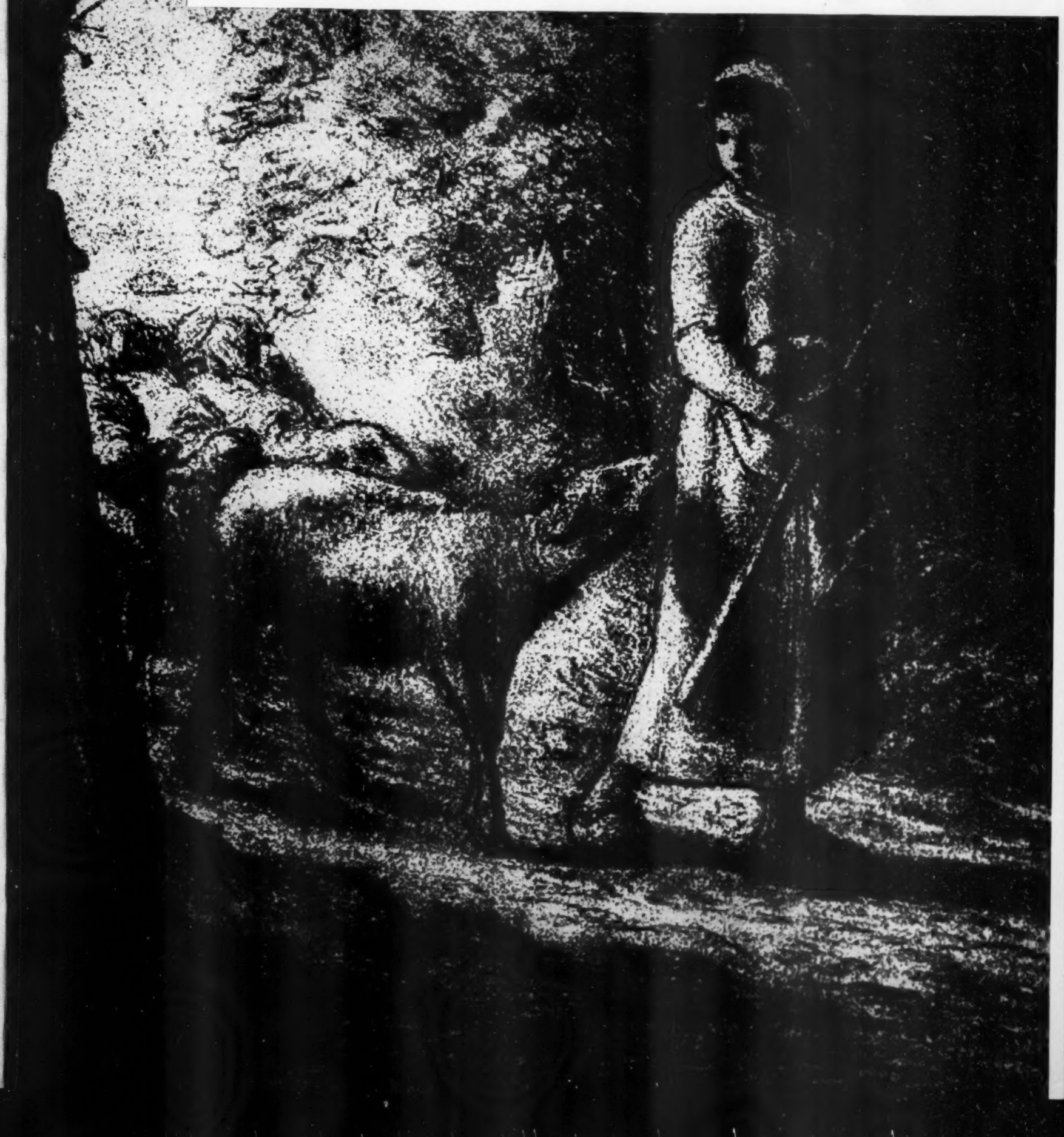
As far as I can remember . . . by VERTES

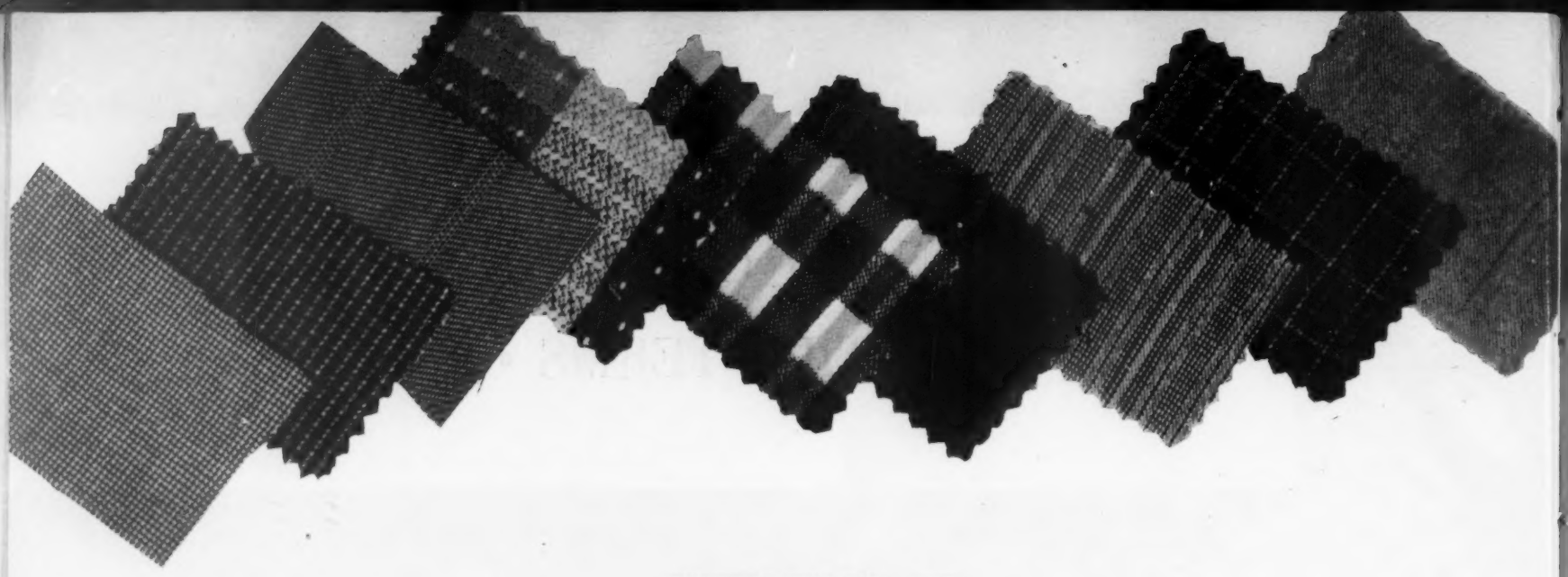
1945: *During World War II "being sloppy" was very stylish . . .*

1947: *La guerre est fini! The war is over!*

1948: *This was the New Look . . .*

DICTIONARY OF WOOL AND WORSTED TEXTILE TERMS • FINAL PART





DICTIONARY OF WOOL AND WORSTED TERMS – PART III

PIECES: Odds-and-ends and small batches of wool picked up from the sorting room in the mill. Sold in varying size batches.

PIECER: The spinner's helper whose work it is to join, twist or splice broken ends which occur in the process of spinning the roving into yarn.

PILE CARPET: A carpet having a surface of cut or uncut pile, or a combination of the two.

PILE FABRIC: A material that, to some degree, resembles fur. The cloth may be cut or uncut. It has a nap on the face of the goods, or it can be made so that there will be long loops in the uncut type of material. Pile cloth may be soft or harsh in feel, have considerable body, and an appealing appearance.

Some common pile cloths include Terry toweling, furniture covering, velvet, velveteen, panne velvet, corduroy, runners, rugs and carpets, mohair plush, car seat plush, straight plush and that used in automobile upholstery, imitation fur fabric, powder puff cloth, etc.

PILE FABRIC, LOOPED FILLING: The production of pile fabrics in which the face is made up of loops of filling pile, depends on the construction of the weave, material used, and the difference between the reed width and finished width.

The weave is planned for one warp and two fillings, a pile and a ground filling. The ground filling will interlace comparatively tight while the pile filling will interlace tightly where it is to be hidden and forms long floats on the face of the cloth, where the loop are to be produced.

Best results are obtained by using wool for the ground filling. This is because of the shrinking qualities of that fiber. The pile filling should be of loosely twisted mohair, wool of the luster type, or other hair fibers. All of these may be steamed while on the bobbin in order to "set" the filling, and give it the tendency to curl, when unwound.

The material is set wide in the reed, and when shrunken in, the ground filling shortens by shrinking, while the mohair or luster wool does not shorten. Instead they will form into curls, nubs or loops, where they floated on the face of the construction.

The following lay-out would show the construction data of a cloth in this class.

Warp: 11 ends of 4/8s black cotton, then 3126 ends of 2/20s black cotton, then 11 ends of 4/8s black cotton, for the listing. This would make 22 ends of selvage altogether. The warp would be reeded two ends per dent in an 18.5 reed, making 84.5 inches inside of the selvage. Material would be finished at 56 inches.

Filling: 15 picks of No. 2 mohair for the pile, and 15 picks of 12 cut wool for the ground weave.

PILE-ON-PILE: Velvets made with varying pile heights by weaving or shearing. In warp pile fabrics the wires used have varying thicknesses along their length, thereby producing long pile in the thick places and short pile in the thin places.

In filling pile cloths, the floats will vary in length; short floats will give a short pile effect, long floats will produce a longer pile.

To obtain a pattern of this type through finishing part of the pile is pressed down by embossed rollers or blocks; that portion of the pile remaining upright is then sheared to an even nap. The pressed areas are then brushed upwards to form the design or motif.

PILE WEAVE CONSTRUCTION: Requires two or more warps and one filling, or two or more fillings and one warp. The extra warp or filling, called the "pile" warp or filling, forms the loops on the face of the fabric. These loops may be cut or uncut as desired. If the loops are cut, it has been done by knife blades which are attached to the loom, except in fine velvets, in which this is a separate process.

PILOT CLOTH: Uniform cloth that is heavy, bulky and strongly made. Wool is the fiber used and the cloth is on the order of the average kersey. It is not as lustrous as the latter cloth. The material is drab in finish and is dyed navy blue or some dark color. An ideal cloth for seafaring men. The weight runs from 20 to 30 or more ounces.

PIN-CHECK: Worsted suiting that has a small, figured effect about the size of a pinhead. Color effects are used in making the design and the finished fabric shows a cloth studded with the minute pin checks.

Also a fine rayon fabric made with different colored yarns. The pin checks are very small. Gives good service.

PIRN: 1. Scotch term for a small spindle.

2. A wooden bobbin which sets into the shuttle. It has a chase, nose or tapering tip, like a cop, which enables the yarn to come off or unwind easily.

3. The bobbin on a spinning wheel.

4. A British term rarely used here meaning a paper tube used on a shuttle spindle.

PITCH: Means the number of warp yarns per inch crosswise of the loom. It is usually stated in relation to 27-inch or ¾ width. Standard pitch for Wilton is 256, Axminster 189.

PITCHY WOOL: Grease wool.

PLAID: A yarn or skein dyed fabric consisting of colored bars crossing each other to form varied squares or oblongs; a plaid makes a one-way or an all-over design. Beautiful color combinations may be derived from proper matching of the squares at the seams. Plaids are used in gingham, dressgoods, coating, shirting, plaid-back overcoating, ribbon, suiting, blankets and robes.

PLAID BACK: A light, medium or heavy overcoating made on the double cloth principle — two systems of warp and filling, with a binder warp or filling arrangement. The underside of the cloth is a plaid — a series of cross stripes that form a dull or vivid effect. Weight, warmth and the covering up of the interlacings are features of the material. Plaid backs take the place of linings in some of the cloths used for coating material.

PLAINBACK: A worsted fabric made of single yarn; face is of twill weave, back of cloth is made of plain weave.

PLAIN LOOM: The first type of power loom to be developed and first operated in Southbridge, Massachusetts, in 1823. By 1840, William Crompton brought out a fancy power loom that could be used in making designed cloth. This loom could make from 45 to 85 picks per minute. From 1840 onward hand looms began to wane as to the favored type of weaving machine. The use of power sounded the death knell of the old-time hand machine. Production was now at hand. William Crompton, Lucius Knowles and Erastus Bigelow were the three pioneers in the loom industry in New England. They placed American weaving, in time, on a par with British weaving. The first worsted cloth loom was brought out in Ballardale Massachusetts, in 1843.

The plain type o 'oom, run by power, is for making simple construction

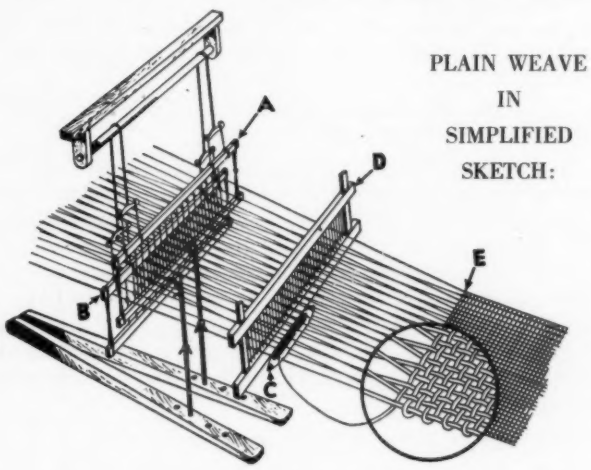
cloth. These looms will make the same type of cloth, year in and year out, in the entire career of the machine. They are used on staple materials. Plain, twill and satin weaves are used in the constructions made on this type of loom. Baskets, ribs and a few other small-repeat designs may be made. Cloth made on this loom will usually run from two to eight harnesses in construction.

Production on the loom is high, and with the automatic devices to aid this a weaver may be assigned to handle several looms at once. It is possible to have a weaver take care of 24 or more of these looms.

Cloth made on these looms might include homespun, tweed, balmacaan cloth, georgette, crepe de chine, taffeta, organdie, voile, handkerchief linen, batiste, print cloths, tobacco cloths, broadcloth, muslin, lawn, cambric, pajama checks, etc.

Plain looms are simple in construction. It may be said that they are hand looms developed to power perfection in every respect to meet the demands of production of today.

PLAIN WEAVE: The simplest, most important and most used of all of the hundreds of weaves possible to be used in making textile cloths. Eighty per cent of all cloth made each year is made on this simple construction. There is only one plain weave, and it gives a checkerboard appearance. It is made, and repeats, on two warp ends and two filling picks, and is read as "one-up and one-down." There are one raiser and one sinker, painted and unpainted block, on each warp thread in the repeat of the weave.



PLAIN WEAVE IN SIMPLIFIED SKETCH:

Harness (A) controls the odd warp ends.

Harness (B) controls the even warp ends.

When harness (A) raises the odd ends harness (B) lowers the even ends to form a shed. The shuttle (C) is shot through this shed, leaving a pick in its wake. Harness (A) and (B) return to center point and the reed (D) swinging forward in the lay pushes the pick up to the fell (E) or the cloth. For the next pick harness (A) will go down and harness (B) will rise.

PLAIN WOOL: That which is practically devoid of crimpiness or waviness.

PLANTED COLORS: In weaving Wilton rugs it is often desired to show more colors on the surface than there are frames or trays. These extra colors are taken care of by using part of the space in one or more of the frames which may have idle spools. The colors will be fed into the loom only in a direct line forward, thereby causing the figures to show such extra colors in a straight line throughout the material.

PLANTING: Usually, a Wilton carpet will have the same number of colors in the design as there are frames — however, by a method called planting, more than one color can be used in each frame, and thus increase the number of colors in the design.

PLATED YARN: Yarn that has been coated with size. Another conception of the term refers to thread which has for its core a cheap yarn and around it is wound a thread of superior quality. The latter covers the core in entirety. An example would be: a core of cotton with wool, worsted or metallic thread wound around the cotton core. Plated yarns find use in blankets, robes, napped materials of various kinds, decorative fabrics, and in some overcoatings.

PLEURES: French term for "dropped" or "fallen" wool obtained from sheep which have died of natural causes. It is a type of pulled wool.

PLOC FIBER: Cow hair used in varying amounts in coarse yarns to be used in shaggy homespuns or tweeds; also used for stuffing quilts.

PLUCKED WOOL: Wool plucked from a sheep which has been dead a few days. Sometimes the term is applied to the skin wool.

PLUMETIS: A sheer woolen, rayon or cotton fabric which has raised dots, figures or sprigs in relief on plain ground. The motif will show a feathery effect as noted in embroidery tambour. The name comes from plume, French for feather.

PLUSH: Woolen or worsted pile cloth, the pile being one-eighth of an inch or more in height. Plush has many well-known uses and is an exaggerated form of velvet. The term is from the French, "peluche." This, in turn, is taken from the Latin, "pilus," which means hair. The cloth is compact and bristly. Made in silk, cotton, mohair and combinations of fibers, as well as in wool or worsted.

Cotton plush has a deeper pile effect than velour or velvet. Used in capes, coats, muffs, powder puffs, and upholstery. Rayon plush simulates the cotton type and has the same uses.

PLUSH LOOM: Used for weaving pile cloths, velvets, velveteens, corduroys, plushes of all types, upholstery cloth, powder puff cloth, etc. The pile effect is brought about by the use of wires that enter the cloth on the same principle as the pick of the filling.

The rods or wires, if they have a sharp blade at the one tip, will make a cut pile material. If there is no blade at the tip of the rod, the fabric will be called an un-cut pile fabric. Cloths may have the pile effect in the warp or filling direction, and some few fabrics have the pile running in both directions. This is sometimes noted in corduroy.

PLY WEAVE: Any cloth made from more than one set of warp and filling threads may be classed as being made on a ply weave construction. In the narrow sense, however, the term is used to signify cloths made of two or more sets of warp and filling threads, as in the case of chinchilla, Montagnac, webbing, brake lining, woven cotton conveyor belting, cotton harness webbing and so on.

PLY YARN: Two or more single threads or yarns twisted or plied together. Any types of yarn may be plied together, the yarn numbers or counts may or may not be the same, and the number of actual ply will vary with particular yarns. Ply yarn, for example, may be stated in two ways:

1. A 2/40s would mean that two yarns of single 40s have been plied together, the ply number preceding the count number. The single equivalent of this yarn would be 2)40(20s; a single 20s.

2. Some mills place the yarn counts before the number of ply — 40/2. The single equivalent would be found in the same way as previously observed.

Some yarns have many yarns plied together to make the finished commercial yarn. Automobile tire fabric, for example, may be 9, 10 or 11-ply.

The term, ply, when applied to fabric implies the number of layers of material combined to give the composite fabric. A three-ply webbing would mean that three single cloths are plied or woven together in a manner of stitching which will give the desired construction in the goods.

POLO CLOTH: Registered trademark of Worumbo Mills, Inc., Lisbon Falls, Maine, for a popular staple used in men's and women's topcoating and polo coats. Made with one warp and one filling the fabric content is choice camel hair and fine wool. This face-finished material, which weighs 21 ounces per yard, has considerable nap on the surface effect. Twill weave is used to make this smart, appealing fabric which comes in natural camel shade and in shades of brown, blue and gray.

Polo cloth is identified by the use of a silk stripe on the back of the cloth. There is a stripe every three inches in the texture and it is an actual part of the warp construction.

POINTED TWILL: A weave in which the threads of the right hand twill and those of the left hand twill come to a point at the break line in the cloth where they come together. The weave gives cloth a sort of zigzag effect. Uses of fabric made this way are the same as for homespun and tweed since the weaves are used chiefly for woolen cloths.

POIRET TWILL: Women's wear dressgoods made of worsted yarn and one of the pronounced diagonal twill cloths. Named for Paul Poiret, deceased Parisian designer. Cloth is made on a 45 degree twill and there are twice as many ends as picks per inch in texture. A three-up and three-down, right hand twill weave may be used and some of the cloth has been made from a steep twill of 63 degrees. High twist counts of yarn are used and the material has a soft feel, excellent draping and clinging qualities which make it ideal in tailoring. Weight of cloth ranges from 8 to 14 ounces per yard. Material is well-balanced, has excellent finish and comes in all shades and colors. Piece-dyed cloth, genuine staple and very popular at times.

POLWARTH SHEEP: A sheep breed found in Australia and Tasmania resulting from crossing Australian Merino with Lincoln sheep. Known in Australia as Comeback Sheep, because of the number of generations taken to obtain the type. The wool is even, has a staple of about 4 inches, and shrinks to about 50 per cent.

PONTIAC: A gray-colored mackinac cloth used for winter wear in cold climates.

POPELINE: A fabric staple that has been on the market for many years. Dyed in all colors or printed, the material simulates poplin or repp. Used for dressgoods.

POPLIN: From the French, "popeline." It is a staple, dressgoods material. The cloth resembles bombazine, and silk warp and woolen filling are used. In the higher priced cloth, worsted filling is utilized. Filling yarn is particularly cylindrical as it tends to give the rounded form of rib line, noted in the fabric, in the horizontal direction. The cloth is also made from other major textile fibers. In staple and plain colors, the material may be used for office coats and linings.

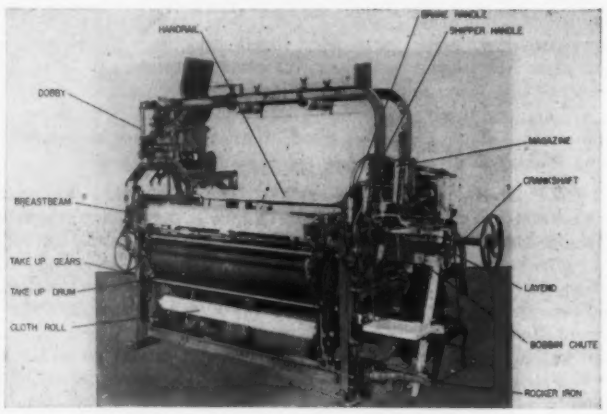
Cotton poplin has a more pronounced rib filling effect than broadcloth. The filling is bulkier than the warp and there are more ends than picks per inch in the material. In the carded poplin the textures vary from 88 x 40 to 112 x 46; combed poplin ranges from 88 x 44 to 116 x 56. The cloth is mercerized and usually chased for high luster. May be bleached or dyed with vat colors; printed poplin is also popular. Heavy poplin is given water-repellent finish for outdoor use; some of the fabric is given suede finish.

This formidable fabric is used for blouses, boys' suits, gowns, draperies, robes and shirting; much uniform fabric is made from the cloth, as well. Rayon poplin is much used in women's wear, and pajama fabric.

PORT PHILIP WOOL: Port Philip Bay is on the southern coast of Victoria, Australia. This extra fine quality wool is shipped from Melbourne and Geelong on the bay. Rated with Botany Bay wool, it is about the finest wool in the world today and is used in the best quality fabrics and garments made of woolen and worsted yarns. Expensive coatings for women's wear, dress suiting, and men's apparel of the best type are made from Port Philip and Botany wools.

POTTING: Its purpose is to produce a bright, sheen face and soft hand to woolens. The cuts of cloth are wound at full width onto a perforated roller which is set vertically in a vat of water. Heat and steam treatment are applied in the procedure, which may last a few hours or several days. On removal from the vat or kier, the cloth is allowed to cool in a natural manner. Also known in some woolen areas as Roll Boiling.

POWER LOOM: A loom that is run by other than hand power. It is the advanced, modern, scientific type of hand loom and has all the modern improvements for production.



PREIN: A German method of pressing all fuzzy, protruding, or irregular fibers into the fabric as it is being woven in the loom; does away with shearing in the finishing of the cloth.

PREPARING: Long-fibered luster wools are prepared prior to combing. The wool or long hair fibers are given several gilling operations to place the stock into a manageable condition so that combing may be successful. It should be noted that carding of the fibers is generally omitted.

PREPARING WOOL: British term for long staple wool fibers. Usually wools of the luster type have to be prepared and these include Lincoln, Leicester, Cotswold, Romney Marsh, etc. Fibers longer than eight inches are usually known by this term.

PRESSING: A method of imparting either luster or a smooth appearance to the face of goods before leaving the finishing plant for the garment cutting or piece goods trade. Methods differ as the type of goods, but generally polished and/or covered rolls or metallic rolls are caused to press heavily on the material. There may be two rollers or a series up to six. All may revolve at the same or at different speeds. The latter type is referred to as "frictioning." Special oil or resin finishes may be applied to the cloth prior to pressing.

Another form of pressing is decatizing. This is a method of introducing simultaneously, a blanket and the goods subject to treatment, onto a large perforated steam cylinder until the entire length of cloth is sandwiched in a roll form. High pressure steam is then forced from the inside out, through the mass. Sufficient time is allowed for penetration after which the vacuum is created within the drum to withdraw the steam and to draw in dry air from the room. The blanket and the cloth are then unrolled from the cylinder.

Flat pressing is used on "alpaca-type" cloths. The fabric to be treated is laid up in a vertical stack with a layer of cloth and a piece of cardboard, a layer of cloth and a piece of cardboard, etc., until the pile is built. The cloth, of course, is in continuous length folded back and forth. The combined pile is placed in a hydraulic press and subjected to tremendous pressure and steam.

PRESS CLOTH: Filter cloth made of camel's hair, cotton and wool, dependent on use. Hair fiber is found in varying percentages, in all press cloths. Quality varies considerably.

PRESSING MACHINE: A machine that presses cloths and puts them in condition ready for actual completion. Pressing adds "smart appearance" to the material and is given to many cloths made from the major textile fibers.

PRIESTLEY: A well-known English worsted that is found in the better types of clothing stores. Made by the English manufacturer Priestley.

PRIME: Merino wool of the clothing grade obtained from the sides of a high type fleece of fine-quality or from the shoulders of a good-quality fleece.

PRUNELL: A heavily fulled cashmere-type fabric; rather heavy in weight and used for dressgoods for winter wear.

PRUNELLA: A dressgoods material and cloth used in children's apparel, made from a two-up and two-down right hand twill weave. Worsted yarn is used in the cloth. Light in weight, usually piece-dyed and not in vogue at the present time.

PUNCHED FELT: Short staple wool of good felting properties is attached to both sides of burlap by needle stitching; the fabric is then felted.

PUNCHED FELT RUG: This is made with a burlap base into which jute is punched first and then wool. Rubber composition is spread on the back in order to lock the fibers and prevent the rug from slipping. This plain or printed rug gives good service.

PUNJAB WOOL: The very best of wool raised in India.

PULLED WOOL: This is obtained from the pelts or hides of dead sheep. It is inferior in all respects to fleece wool, which is taken from live sheep. The stockyard centers produce pulled wool. However, the packing houses are interested mainly in the carcass; the wool is of secondary consideration. They dispose of all this stock to textile plants.

There is more pulled wool produced per year than first-clip wool. Pulled wool is used with better grades of fleece wool to make woolens and worsteds.

PULLED WOOL, METHODS TO OBTAIN: There are three ways to obtain pulled wool:

1. Sweating Process — The hides are sweated until the wool is loosened so that it may be taken from the pelts with ease. However, the hides may be affected if the work is not properly done.
2. Lime Method — The flesh sides of the pelts are painted with lime. This allows the wool to be removed easily after a short aging. Hides are subject to injury and dyeing is sometimes irregular.
3. Depilatory Method — This is the best method to use. A solution of sodium sulphate will loosen the fibers. In the solution there is also sulphuric acid and an alkali made of oyster shells. The flesh side of the pelt is treated just as soon as it comes from the slaughtered animal. Aging will last from 8 to 24 hours. The action is such, that when aging is consummated, the fibers will leave the pelt in the same way lather may be taken from a man's face in shaving. The largest wool pullery in the world is in Mazamet, France.

PUNTA ARENAS WOOL: Wool named for this important seaport in Chile on the Straits of Magellan is a low, crossbred type that is ideal for knitting purposes. Large quantities of this wool, as well as fleeces from the neighboring provinces in Argentina and Chile, are shipped to New Orleans for American consumption. The wool grades from 46s to 56s quality.

PUT RUG: It is made of fine white wool in Madras, India.

PUTTEE: A tubular, plain knitted cloth used in army equippage as a legging material. It is wound spirally around the leg, up to the knee. It has replaced the leather or woven puttee worn by the soldier. About

three-fourths of the cloth composition is shoddy or some other substitute fiber.

PYRENEAN: Coarse Spanish wool much used in making carpets.

QUADRANT: The wheel on the mule, with an arm and a chain, which guides and directs the winding of newly-spun yarn onto the cops or bobbins.

QUALITY: This refers to wool fibers with regard to their diameter, relative fineness, and working properties particularly in spinning and finishing. The quality of the fiber determines the price paid for it, and to some degree also, the use to be made of it by the consumer.

QUALITY NUMBER: The count number by which wool, tops, noils, and yarns are known, this being based on the count of worsted yarn to which the material will spin. Thus 60s tops are supposed to spin approximately to 60s yarns, and should consequently be made from 60s quality of wool. 60s noils are the noils taken from 60s quality of wool during combing.

QUARTER: A loom width of cloth measuring nine inches or one quarter of a yard. The ell was originally the unit of measure in loom weaving in Europe and because of the fact that it was a 27 inch width, the first looms built and used there were made in that width. 27 inch cloth would therefore be called ¾ (three-quarter) goods. 108 inch sheeting would be 12/4 goods.

QUARTER BLANKET: A blanket used under a horse's harness to cover from the tail to beyond the saddle.

QUARTER BLOOD WOOL: Domestic wool which constitutes the bulk of American 50s worsted stock.

QUEEN'S MOURNING: The cloth is black with a fine, white hair line stripe in it. This material has found favor here and it has been converted into hair line, pinstripe and chalk stripe designs popular in men's wear. Red, white, blue and other staple colors are used in the pattern.

QUILLER: 1. The machine used in quilling filling yarns. It consists of two main sections, the quilling machine proper being a substantial framework holding a series of spindle rails, usually nine in number, arranged in tiers, with 40 to 50 spindles in each tier. The other part consists merely of tension rolls by which the yarn is held before passing to the quilling machine proper.

2. A machine for winding yarns of rayon, silk, etc. on quills.

QUILLING: 1. The last process in the long-chain system for filling yarns, in which the threads forming the chain are wound on filling bobbins, or quills, ready for the shuttle.

2. Winding filling yarn, especially of rayon or silk, on to quills.

3. A strip of lace, ribbon or the like, fluted or folded, so as somewhat to resemble a row of quills.

QUILT: 1. Usually a bed covering of two thicknesses of material with wool, cotton or down batting in between for warmth.

2. Also used for jackets and linings of coats.

3. Also the sewing stitch used to make a quilt.

QUILTING: The sewing of a padding or insulating material between two pieces of fabric to prevent the shifting of the contained material.

RABBIT HAIR: It is spun with major textile fibers in making yarn for women's wear dressgoods since it will give smoothness and good handle even to lower quality fabric. Ranges from 1 cm. to 2 cm. in length.

RABBIT HAIR CLOTH: Some women's wear dressgoods have varying amounts of rabbit hair in them to add to the hand and finish. Often done to simulate the feel of true Angora and dependent on the percentage of hair used, little or much of it may be observed on the surface effect of the fabric.

RACE: The narrow space or valley between two adjoining rows of pile yarn in a pile fabric.

RACE PLATE: The track upon which the shuttle traverses in its course from the shuttle box on one side of the loom. It is usually made of steel, but other metals may be used. The race plate directs the course of the shuttle. The "down" ends of the shed just about rest on the race plate.

RADNOR: The original English breed of sheep has ceased to exist; present-day Radnor produces a close fleece noted for its coarse belly wool.

RADOMIR: A Bulgarian type sheep which yields a fleece of about 3½ pounds; staple is white.

RAISED: 1. Pertains to a fabric, chiefly one of wool, which has a napped surface finish.

2. In needlework, velvet, etc., the term implies a pattern or design in relief.

RAISING: Another term for scratching, brushing, gigging or napping.

RAM: Male sheep used for breeding purposes. It produces longer and stronger wool than ewes and wethers. Rams have a strong characteristic odor.

RAMBOUILLET: This breed, the largest and the strongest-bodied wool sheep, is a pure descendant of Spanish Merino, imported by France in 1785. Rambouillet were brought to this country in 1840; today they constitute about 27 per cent of all sheep here. Rams of this hardy breed weigh about 250 pounds, ewes about 140-170 pounds. A ram fleece of a year's growth will weigh 15 to 25 pounds of fine wool which will sort to 64s or higher. Fiber length is 1½ to 3 inches. Shrinkage averages about 60 per cent. Range sheep have blood of the Rambouillet or other Merino breeds.

RAMS' WOOL: Shorn from male sheep. Stronger than ewe wool.

RANGE: A series of wool, tops, yarns, fabrics, colors, etc., which possess some similar features, but which differ in at least one feature.

RANGE METHOD: In contradistinction to the Farm Method of raising sheep, this method is used in raising sheep west of the Mississippi River. Large flocks roam the ranges of the West under the keen eye of the sheepherder and his faithful sheep dogs. The only protection afforded the sheep against the elements are valleys, forests and ravines, a bane to the sheep raiser. Unfavorable weather and attacks by predatory animals, disease and parasites are also of much concern to the growers.

In many instances the sheep flocks are allowed to graze on public land, for which privilege the grower pays a stipulated fee.

RANGE REGION: The region, chiefly semi-arid, west of the 100th meridian. Hardy Rambouillet and Merino types form the greater part of the flocks which feed in this area. See Territory Wool.

RAPLOCH: Scotch term for undyed woolen fabric which is rough, uneven and of low quality.

RAS, RAZ: French, meaning smooth and short-napped, the term may be applied to the uniform nap on broadcloth, kersey, melton and beaver.

RATINE: From the French, meaning "frizzy or fuzzy." An overcoating cloth on the order of chinchilla. Used in women's wear coatings in woolen trade.

Cotton ratine is a loose, plain woven cloth with a rough, nubby surface finish; one heavy and two fine yarns twisted together at various tensions form the curly, knotty ply yarn. Cheaper qualities use ordinary yarn as warp while the filling is made of ratine. Can be bleached, dyed or printed and is given a high luster or other types of finish.

RATINE YARN: A popular novelty yarn of varying ply in which there is a nub, bug or knot effect. The yarn is made in a spiral formation and there is a core or binder yarn included which acts as a base and holds the plies together. The yarn in ratine fabric presents a fuzzy, nubby surface.

RECLAIMED WOOL: This broad term implies wool obtained from the following sources: clippings, old and new woolen or worsted rags, tailor's

clippings, reprocessed wool, remanufactured wool, shoddy, mungo, extract wool, etc.

RECOMBING: Worsted tops sometimes receive a second combing treatment. It is done to remove minute particles of vegetable matter not removed in the first combing, as well as to obtain a larger percentage of noil fiber and therefore produce a better worsted top for manipulative purposes. The treatment usually comes after top dyeing. See Second Combing.

RECOVERED WOOL: Stock from felted fabrics produces mungo while that obtained from unfelted fabrics is known as shoddy. The fibers are obtained by passing the goods through the garnetting machine. See Reused, Remanufactured Wool, Wool Labeling Act of 1939.

REDOUBLING: In reality a form of doubling which implies the constant doubling in a series or set of textile machines. Doubling and redoubling are essential in making even, uniform yarn; without the use of either yarn just could not be made.

REED: One of a number of thin, flat pieces of pressed steel wire between which the respective warp ends are drawn after they pass through the correct heddle eye on the proper harness frame in the loom. The reed beats the filling picks into their respective place against the fell of the cloth. A Number 40 reed, for example, means that there are 40 reed splits to the inch in the reed.

REED MARKS: Actual streaks or marks seen in the warp direction of cloth and found in all woven goods, but more particularly in lightweight cottons, some silks, and certain rayon fabrics. Reed marks may be caused by the following: wornout reed, loose reed wires, bent wires of the reed, wrong draws, incorrect reeding, and warp which may be given too much tension on the loom. Reed marks may be obliterated in finishing of the material.

REELING MACHINE: A machine used to draw yarn from many bobbins, cones, or cops, mounted on spindles onto a revolving reel to form skeins.

REFIN: French for the best grade of wool from any particular class or source.

REFLEURET: French for the best grades of wool in Class 1, the Merino group.

REGENERATED WOOL: On the order of Renaissance Wool, it is obtained from felted and unfelted garments. Used in further manipulation in new cloths. The British meaning implies wool fibers obtained from woven or knitted fabrics.

REHAMMA-SRAGHNA: An open, long staple fleece from sheep of that name raised in Morocco. Staple is about 3½ inches.

REJECTS: 1. Woolen or worsted fabrics rejected by the apparel manufacturer for some particular reason, such as narrow width, light weight, poor selvages, faulty dyeing, washer wrinkles, etc.

2. Wool not accepted by the consignee because of color or cast, tenderness, kempiness, seeds, burrs, stains, clumps, etc.

REMANUFACTURED WOOL: See Wool Labeling Act, 1939.

REMNANT CLOTH: A piece of cloth used to roll around a beam before fabric is wound thereon, to hold the material to the roller.

REMNANTS: Short ends that accumulate around the mill. They are sold to dealers, who, in turn, sell them over the counter to the trade in the well known "mill ends" sales. Remnants are also sold in the basement bargain counters in the department stores of the large cities.

RENAISSANCE CLOTH: 1. French term for cloth made from shoddy or remanufactured wool clips.

2. Cloth made from reworked fabrics often known as remanufactured fabric.

REPEAT: 1. An entire completed pattern for design and texture. Repeats vary in size considerably, depending on the weave, type of material, texture, and the use of the cloth.

2. The form which indicates the size of the weave and the number of threads that the weave contains in both the warp and filling. A weave may be repeated any reasonable number of times on paper.

REPROCESSED WOOL: Woolen fibers obtained from woven, knitted or manufactured goods which, however, have never been used by the consumer.

RESIDUAL SHRINKAGE: The shrinkage or shrinkage properties remaining in such goods after the same have undergone a shrinking process. The residual shrinkage of unsponged or unshrunk material should be interpreted as that which would occur after the material has been subjected to a shrinking process which would bring about maximum shrinkage. However, since many factors are involved, e. g., method of shrinking, increased shrinking increments brought about by additional washing, sponging, pressing, and dimensional changes resulting from different methods of handling, the term residual shrinkage has come to mean the dimensional change occurring after the fabric has been subjected to a stated test procedure.

RESILIENCY: The power of rebounding possessed by many textile materials, a decided asset in many fabrics. Springiness and elasticity are often used as synonyms.

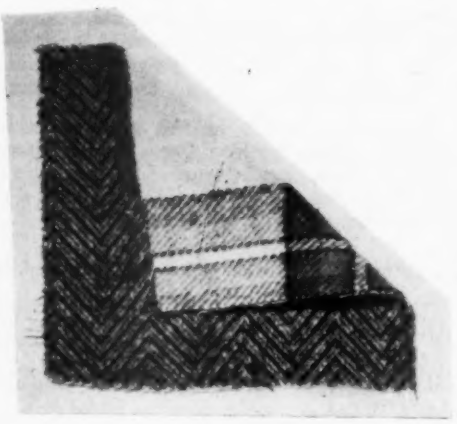
The term is often used with regard to the elasticity in the warp and the filling of a cloth, chiefly made with hard-twisted warp and filling. For example, a cotton Bender Bandage has elasticity in the warp only but it can be woven with crepe-twisted yarns in the warp and the filling with elasticity or resiliancy assured in each direction. Many fulled woolens possess resiliency or springiness.

REUSED WOOL: Fibers obtained from garments worn by consumers. The cast-off apparel finds its way to the garnetting plant where the material is returned to the fibrous stage. Shoddy and mungo are the names applied to the unfelted and felted fiber residue following the garnetting operation which breaks up the garments and produces the fibers.

REVERSIBLE: 1. A material in which it makes little difference which side is the face of the goods — burlap, canvas, duck, mail-bagging, webbing, etc.

2. A garment which has, say, gabardine or some similar fabric on the one side to be worn during inclement weather; the other side of the garment may be cheviot, homespun, shetland, tweed or some similar cloth which can be worn as the face of the garment in bright, crisp or cold weather.

3. A double-faced fabric such as crepe-back satin, rib-canton, satin-canton, etc.



REVERSIBLE FABRIC: It is an accepted fact that many plain woven fabrics are alike on both sides, unless napped or printed. Sometimes, cloth is printed on both sides; this is often called duplex printing. Reversible cloth is also produced by weaving a pattern on each side of the fabric. The design on each side may be the same or different. Many woolens, such as blankets, plaid-back overcoatings, robes, and steamer rugs are made in this manner.

REVOLVING CYLINDER CARD, INVENTION OF THE: In 1748, John Wyatt and Louis Paul, ten years after they had invented drawing rollers on textile machinery, brought out the revolving cylinder card. This type of card is used today but has been improved greatly since their invention. The principles of Wyatt and Paul's machine are the basis of the modern, individual-driven machines of today.

RIBBED FABRIC: A broad term for cloth made with heavy warp or filling ribs to give it a characteristic feature for identification. Examples are Bedford cord, officer's belt webbing, Russian cord shirting, corduroy, some riding habit cloth and certain novelty dressgoods. Filling effect cloths are bengaline, rep, poplin, pique, and some ribbons.

In knit fabric, the term may imply fabric that has lengthwise ribs or wales which show on the right and the wrong side of the material in a 1-and-1 or a 2-and-2 order.

RIDDLE: Red markings used on Shropshire sheep for identification purposes.

RIFFAN: Scotch term for carded wool.

RIG-IN-FLEECE: A part of cleavage up the middle of the fleece made by the wool sorter so that he may more readily handle and sort the fleece. Also called Rig Wool, Rig Fleece.

RIG WOOL: Wool along the spinal area of sheep; term used with regard to long wools and crossbreds.

RIGGED CLOTH: When a cut or bolt of cloth is doubled and folded selvage to selvage; affords protection to face of the goods.

RING: A small, circular pressed steel track which surrounds the bobbin of yarn and carries the ring traveler around in its course several thousand revolutions per minute. The yarn passes between the traveler and the ring on its way to be wound onto the bobbin.

RING BAR: A metal rail which extends the length of the ring spinning frame and, by a properly-timed up-and-down action, builds up the yarn onto the bobbins in an even, uniform manner.

RING FRAME: A ring spinning frame or a ring twister frame.

RING HOLDER: Found on the ring spinning frame, it is the device attached to the ring rail which holds in place the fast-traveling ring travelers in their continuous course while the machine is in operation. The holder is usually a flat, annular, pressed plate. Rings may travel from 4,000 to 12,000 or more r. p. m.

RING RAIL: On the ring spinning frame above the spindle rail and parallel with it is the vertically movable ring rail. It is a channel-shaped, long metal piece with the flanges projecting downward. The web of the rail is drilled with holes to agree with the holes in the spindle rail. These holes are of sufficient size to accommodate the spinning rings, as well as the spindles. Made in sections, the ring rail is supported by upright lifter rods which also provide a traversing motion in a vertical direction. See Spindle Rail.

RING SPINNING: A method of spinning cotton and worsted roving into yarn. The roving, after it has passed between the sets of drawing rollers, is guided in a downward direction through the traveler, a small inverted "U" shaped device which is flanged onto its respective ring in the ring rail of the machine. It travels around the ring at the rate of 4,000 to 12,000 revolutions per minute. As the spindle revolves to wind the yarn the latter has to pass through the traveler and carries it around on the ring at this rapid pace.

The narrower the width of the traveler, the finer is the diameter of the yarn and the higher its count or size.

The up-and-down motion of the ring rail causes the winding of the yarn onto its bobbin at the nose, body and heel. The spindles are driven by means of cotton friction banding. One endless belt drives two spindles on each side of the frame, four in all.

RING TWISTER: There is no draft on this machine, which is equipped with rings and travelers to twist and wind yarn.

RING WASTE: Odds-and-ends of wool roving which gather in the rolls of a ring spinning frame.

RIPPLE, WAVY CLOTH: British fabric made from rather coarse woolen yarn in which the surface effect of the goods, because of the long, protruding fibers, make it possible to give the fabric a rippled or wave type of finish.

RIVER PLATE WOOL: Also called Buenos Aires or Montevideo wool, the term embraces Merino wools raised in the Argentine and Uruguay which, although fine in fiber quality, lack strength and loftiness. The wool also contains an excessive amount of burrs.

RIVERINA MERINO: A leading type of Merino sheep raised in Southeastern Australia called the Riverina. Victoria is the clearinghouse for the wool in this open, grassy plain in New South Wales.

The sheep are strong, hardy, good foragers and the plain-bodied animal is noted for the dense wool folds on the neck. Fleece weight is about nine pounds, staple is about five inches, while the fiber grades from 64s to 60s.

ROBBINGS: Wool fibers removed during combing operation but too long in staple to be classed as noil.

ROBERTS: By 1830, he had considerably improved the mule frame of Samuel Crompton. The machine was made well nigh perfect by him, because of his technique in handling the frame. He invented the quadrant, one of the most important and vital mechanisms to be found on the modern mule of today. The quadrant has much to do with the even motion of the mule, and helps to prevent any jerky, irregular action while the machine is in operation. His invention assured even, uniform yarn resulting from co-ordinated drawing, twisting and winding.

ROCK WOOL: This insulating material is made from melted silicon rock, the molten mass being forced through jets by compressed air and steam, which force the mass into a myriad of tiny pieces.

The fiber resembles wool and finds much use for insulation; it is forced or blown between the inner and outer walls of houses to regulate the heat and cold. It is claimed that a one-half inch layer of rock wool will save about 25 per cent in the fuel bill; a one inch layer will reduce the average fuel bill about 35 per cent.

Rock cork is made by pressing asphalt and rock wool into sheet form. This product is used in refrigeration.

ROCKY MOUNTAIN SHEEP: Similar to but smaller in stature than the Asiatic argali sheep, this "bighorn" type of sheep ranges over the western coast of Ganada, this country and Mexico.

ROLLER CARD: The average type of woolen card which does its actual carding of wool fibers among the three types of rollers — the main cylinder and four to seven or eight sets of stripper and worker rollers. All other rollers on the card are of the auxiliary type and do no actual carding of the wool fibers.

ROLLER CLOTH: An all-wool woven felt used on specific drawing rolls on various textile machines to afford a resilient base or cushion under the leather roll covering on the surface of the roller.

ROLLER DRAWN YARN: Rather tight, beardy, and wiry yarn. Made on ring or cap spinning frames.

ROLLER LEAD: The lead of a roller, or that of the gills on a gill box in worsted yarn manufacture implies that the lead roller or the lead gill travels somewhat faster than the trailing roller or gill.

ROLLERS: There are six types of rollers used on textile machines — back, front, top, bottom, smooth, and fluted.

Back rollers are part of every machine; their purpose is to level or reduce sliver, slubbing or roving. They are called feed rollers, and it is between them that the stock is fed into a machine or frame.

Front rollers are for the delivery of the form of stock as it passes from a machine. Both back and front rollers are arranged in pairs, one above the other.

The upper roller of each of the sets is known as the top roller or top back roller, or the top front roller, as the case may be. The under roller is called the bottom, back or front roller.

The rollers on some machines, a gill box, for example, are usually corrugated or fluted and fit into one another very much like the teeth of wheels fit into each other. This affords a better point of contact and insures a uniform feed and delivery of the stock which is superior to that given by a smooth roller under similar conditions. Less pressure is required upon fluted rollers than would be required of smooth rollers to obtain the same result, thus consuming less power to drive them. The nip of a fluted roller can be placed much nearer to the gill pins than would be possible with smooth rollers because the diameter of the roller is much less.

ROLLING SELVAGE, ROLLING LISTING: Selvages that curl or roll up are often cut by the shearing machine in the finishing department. Rolling selvages are often caused by the edge selvage ends having too much tension or pull on them. The weaver should watch his edges closely in order to immediately fix any defect, no matter how slight. Automatic looms equipped with warp drop-wires will cause the loom to stop or knock-off if any end in the warp breaks, selvage ends included. Broken warp ends, in looms of this type, must be remedied before the loom will again begin to weave fabric.

Another cause of rolling selvage is heavy density in the reeding of the warp. If the density is too great it should be lessened to the point where the selvage ends are only slightly heavier than the body of the cloth. Narrow selvages will have the tendency to roll during and after finishing. Selvage of sufficient width should be provided each loom warp. See Selvage.

ROMANOV: The Yaraslov region of the Soviet Union produces this carefully bred type of sheep, which is known as a leading "fur sheep."

ROMBENELLI: South American wool, noted for its long, fine staple.

ROMELDALE: A medium wool results from this sheep breed, developed by crossing New Zealand Romney rams with Rambouillet ewes. Capable of being shorn bi-annually, fleeces weigh about 10 pounds and grade to ⅜ and ½-blood quality. Shrinkage is about 45 per cent.

ROMNEY MARSH: Originating in the marshes of Kent County, England, this hardy breed of sheep is now popular in America, Australia, New Zealand and South America. The wool is not as long nor as lustrous as Cotswold or Lincoln wool of Great Britain; however, it is denser, finer, and grades from low ¼-blood to ¼-blood. There is much variation in Romney, which shrinks about 30 per cent.

RONDERIS AFRIKANDER: This hardy, fat-tail sheep, native to South Africa, gives a white or cream colored staple made up of coarse, straight 1¼-inch fiber which projects beyond the wooly undercovering of the animal. The Blinkhaar type has lustrous hair which implies a soft, silken-like fiber; the Steekhaar type produces a thistle-like hair which implies that much kemp will be found on examination.

ROO, ROOING, ROO'D: English term for the plucking of wool by hand in lieu of shearing. Much stock from Shetland sheep, for example, is of the roo type.

ROOFING FELT: A felt made from combining coarse hair fibers with wool or asbestos; a thorough impregnation with tar gives the finished product.

ROT: Broad term which signifies that some parasitic disease has attacked the sheep; a rotting of tissues such as the liver, foot, mouth area, etc.

ROTARY FULLING MILL: Two or three layers or ropings of fabric are passed between two or more very heavy fulling rollers in the machine. The type of cloth being fulled controls the length of time the material is in the mill.

ROTARY PRESS: A machine for pressing woolen and worsted fabrics, similar to the calendering machine used in pressing cottons. Done by passing the fabric between a battery of heated rollers.

ROUGH FELL: The well-known Blackface Mountain sheep which are native to the Westmoreland Fells and in part of the Yorkshire Hills of England. Also known as Rough and Kendall Roughs, the breed may be compared with Lonk sheep, in that the former is smaller and produces a coarser, stronger wool. Practically identical with the Blackface of Scotland, the wool is not as long in staple and is somewhat weaker. Fleece weighs from five to six pounds.

ROUGHERS: Woolen fabrics as they leave the loom in the gray state usually have a rough, rather unsightly appearance. The finishing operations will remove the roughness, fuzzy protruding fibers and other irregularities.

ROVING: The soft strand from which yarn is made. It is one step removed from finished spun yarn. Roving is fed to the spinning frame and comes out in yarn form. It is finer in diameter than sliver or slubbing but is greater in diameter than yarn. Roving may be considered as a condensed sliver and slubbing which has been drawn, drafted, twisted, attenuated, doubled, and redoubled, as well as being made free of foreign matter.

ROWS: The average number of tufts or loops per inch counted in the warp direction of a carpeting.

ROYAL AXMINSTER: Axminster carpets of commerce are the Royal Axminster or Moquette, the name commonly used in this country today; Patent Axminister is also in this class.

ROYAL BOUCLE: Carpet material of high quality in which permanent twist of the pile construction is the outstanding feature. This texture can be washed, shampooed or dry cleaned without injury to the twist in the surface yarn. It is impervious to footprints and is easily rolled; outwears many other carpetings by a wide margin.

RUBBERS, SCAB: A sheep disease caused by heat, chafing, friction, itching, etc.

RUG: 1. A piece of thick, heavy fabric, usually with a pile and commonly made of wool. Used for floor covering, the terms rug and carpet are considered interchangeable.

2. Originally, a rough, heavy woolen fabric characterized by a coarse, napped finish; used in European countries for apparel by the poorer classes.

RUG, DOMESTIC ORIENTAL: A common term given to any rug or carpet which has been given a lusterized finish, chiefly with reference to Oriental reproductions.

RUG GOWN: 1. A gown made of a rug.

2. A coarse, shaggy fabric.

RUG, LUSTER-FINISHED, SHEEN-FINISHED: Rugs and carpets of the more luxurious types are often supplied with a lustrous finish which is the result of an extra process. The practice began just before the beginning of the present century. It was the invention of an American importer of Oriental rugs and for many years it was confined to Persian and Chinese rugs. The sheen-finishing process gives a rich, silky appearance to the pile and refines the colors to delicate shades, both of which appeal to the lover of Oriental rugs. In fact, today the great majority of Oriental rugs sold in America are luster-finished.

In 1928 luster-finishing was used with American reproductions of Orientals, and since then with rugs and carpets of all styles. It has been employed especially with high pile plain shades and self-tone weaves, where the play of light and shade adds variety of tones and contributes to the effect of luxury.

The sheen-finishing process takes place after weaving. The fabric is treated with a chemical solution which acts on the surface of the wool fibers in the yarn, and, as it were, polishes them. Highlights are added, giving an interesting play of light and shade.

RUG, SELLING POINTS OF A:

1. A rug should have sufficient weight to lay flat on the floor.
2. The color and design should not be gaudy, too large, nor outlandish.
3. A rug should harmonize with the rest of the room.
4. A hall room rug should be brighter in color and design than other room rugs.
5. A short, close pile rug gives the longest wear, preferably with worsted yarn.
6. The cut pile usually shows to better advantage because of the long, soft pile effect, giving a velvet-like surface.
7. Cotton rugs become shabby quickly because of the short fibers.
8. The closer the weave construction in a rug, the better is the quality.
9. A velvet rug has printed yarn.
10. Wilton rugs are classed as medium or better grade of varying value which depends on the composition, pile and coloring.
11. Axminster rugs have a long, soft pile. They are not as durable as some of the other constructions.
12. Chenille is an expensive type of rug. This is because two looms are required in its development, hand labor by way of combing, and each pattern is custom-made.
13. A Brussels rug has an uncut pile, and does not catch the dirt so readily, since the composition is cotton and jute. It is not as rich in appearance when compared with a velvet or Wilton.
14. An ingrain rug or carpet is serviceable. It has no pile; however, it does not have the velvet-like appearance or beauty of the pile rug.
15. Persian rugs are the best for softness and richness of color. High grade composition is used, the weaving is slowly and carefully done, the designs and colorings are of the best.
16. An Oriental rug is valued according to the age, size, the number of tufts to the inch, composition, richness of color, fineness of design.
17. An Oriental rug may be distinguished from a Domestic by determining how the yarn is fastened into the rugs. In the Oriental, the pattern is usually broken down and the fringe is made from the warp ends.
18. Hard twisted yarn is an asset to any rug.
19. All things being equal, a loop or uncut pile will give better wear than a cut pile rug.

RUG WEAVING FRAMES: They are the racks at the back of the Jacquard loom to hold the spools from which woolen or worsted yarn pile yarn is fed into the machine. The spools in each rack are wound with one color and there are six racks situated one above the other.

From three to six frames are used and the number is a measure of quality as well as an indication of the number of colors in the pattern. Thus, a six-frame Wilton would have six woolen or worsted yarns running through it in lengthwise direction in addition to the double set of cotton chain warp yarns and the stuffer warp.

In each row one woolen or worsted yarn of the set of six is brought to the surface to form the pile tuft, while the other five yarns are inactive in the back of the material.

RUG TOW: Coarse tow is produced by the rougher scutcher, fine rug tow from the buffer scutcher. The coarse tow is further scutched so that it may be manipulated with fine tow and made into yarn for rug backing.

RUGGING: A floor covering made of bulky, coarse woolen yarns; a thick nap is given the fabric to prolong its usefulness.

RUMP: Wool taken from the rump and tail of the sheep. The stock is inferior in all respects, short, kempy and dungy; has little or no value.

RUN: 1. A system of numbering woolen yarn of 100 yards each in one ounce. Thus, if 800 yards weigh 1 ounce the yarn would be an "eight-run wool."

2. A batch or lot of material that is to be processed in a single continuous operation or series of operations.

3. A series of successive ravelled loops along one or more adjacent wales of a knitted fabric.

4. The Boston or New England standard used in figuring wool yarn sizes. There are 1,600 yards in one pound of the wool yarn in the standard Number 1 yarn. Thus, if the run-wool count is six, there would be 9,600 yards in the pound of yarn — 1,600 times 6 equals 9,600. The cut system for wool yarn, known as the Philadelphia Method, uses a standard of 300 yards to the pound in the Number 1 count of yarn. Thus, if the cut-wool count is eighteen, there would be 5,400 yards in the pound of yarn — 300 times 18 equals 5,400.

RUN-OUT FLEECE: A low grade, uneven, coarse, kempy fleece; devoid of any positive working properties.

RUN WOOL: The number of 1,600-yard hanks of yarn in one pound; the number is known as the count of the yarn. The count is determined with a 7,000 grain-weight of yarn under standard conditions.

RYELAND SHEEP: An old British breed of sheep native to the sandy areas southward from the Rye River, England. Noted for its ability to pasture on marshy ground and its hardiness, the sheep does not really belong in the Down Wool group; for convenience sake, however, it is placed in the Down class. Resembling Shropshire sheep, the wool is of good, deep staple and is thickly set on the skin; it is also curly with a rather soft "silk-like handle."

Until Merino sheep were introduced into England, Ryeland was considered about the best in British wools. Much of the type is now raised in Kentucky. The quality ranges around 56s, staple is about 5 inches, and fleece weight is about 5 pounds.

RYGJA, RYGIA: Native Norwegian breed of sheep that produces a wool too coarse for modern clothing. Found along the coast of West Norway. See Dala, Sjeviot.

SADDENING: To reduce vividness in color by making dark, drab or dull. In wool dyeing it is the procedure of applying the mordant after the dyestuff rather than before it; colors will become "sad" in cast, shade, tone, color, etc.

SADDLE BLANKET: Made of coarse wool, it is a blanket placed under the saddle to prevent friction, chafing and galling.

SALAMANDER WOOL: The term for asbestos in some parts of England.

SALANG: Native woolen fabric used in apparel in the Himalaya Mountain areas.

SALING: A fabric made in Turkestan from goat and camel fibers. A saling is about 22 yards long and 12 inches wide.

SALISBURY: Popular white English flannel; made of woolen yarn, it comes in varying weights.

SALT AND PEPPER: Homespuns and tweeds made with ply yarns of black and white. The nature of the yarn is such that in the finished cloth there is the appearance of salt and pepper.

SALTAIRE: English textile town founded by Sir Titus Salt, the discoverer of alpaca and a leading textile manufacturer of his time.

SAMARKAND RUGS: Medium-size rugs of wool, silk or cotton ground work and silk or cotton pile yarn tied in Senna knots. The motifs are Chinese with five or fewer medallions, fret-work effects, and odd stiff flowers. Red, yellow, blue, brown, and white are the predominant colors used.

SAMPLE: 1. A swatch or small piece of fabric used for optical inspection and physical examination.

2. The picking of samples at random for a fair sampling of a lot of wool, sliver, top, fabric, etc.

3. Yarn or fabric to be given various tests for quality, wearability, etc.

SAMPLE ROOM: A room in a mill or office where samples of various types are examined for approval or rejection.

SAND ROLL: A part of the loom. It is the wooden roller, covered with either sandpaper, sharp pins, or grating of some sort to prevent the cloth, just woven, from slipping as it winds around the cloth roller after passing over the breast beam. The cloth proceeds from the sand roller to the cloth roller. It sets next to the cloth roller, or may be set above it, dependent on type of loom.

SAND ROLLER MARKS: These are observed in cloth in the filling direction and may be caused by uneven tension and "pull' on the cloth as it winds around the sand roller on the loom. Irregular tension between the sand roller and the cloth roller will also cause these marks.

SANGLIER: 1. French for wild boar. A plain weave dressgoods made of wiry worsted or mohair stock, closely woven, and given a rough surface finish to simulate the coat of the boar.

2. Any general type of French dressgoods made of highly twisted worsted or mohair yarn.

3. Cotton or hemp strap webbing used as a support for the springs on chairs, upholstery, and beds.

SAPPY WOOL: Wool which has a high percentage of yolk and suint; the actual yield will be small because of their presence in the grease wool.

SARABAND RUG: Small or medium size Persian rugs made of cotton warp and filling for the base construction with the short pile-effect made of wool tied with Senna knots. Some of the rugs may have wool filling. The design usually shows a pear or some other fruit, while the narrow ornate borders have approximately seven stripes in red, blue or green. The filling crosses twice beneath each row of tufts. The rugs are often used as runners since they can be made in long, narrow sizes.

SARAKHS RUGS: Carpets or rugs made in this northeastern town in Iran (Persia). These heavy, all-wool rugs have the long, close pile tied in Ghiordian knot formation. The yarn is spun from wool obtained in the vicinity.

SARAWAMI: An Indian sheep known for its fat-tail, its fleece shows both wool fibers and hair. The yield is used chiefly in making rough blankets used by the natives and finds some use as carpet wool.

SARPLAR: 1. A bale of wool that weighs one ton, 2,240 pounds. This is equal to 80 tods.

2. Tod used with the term sarplar is a unit weight of 28 pounds of wool.

SATIN BERBER: A good wearing all-worsted cloth made with a satin weave and given a luster finish.

SATIN BONJEAN: French trousering of good wearing quality made in satin weave of worsted yarn throughout; a fulled finish is given the goods.

SATIN CLOTH: A fine worsted dress fabric made in satin weave and luster finished, of French manufacture. Woven 27 to 30 inches wide.

SATIN FRANCAIS: A worsted, satin-weave fabric with a glossy face-finish. The warp and filling are of identical counts of yarn. Used for upholstery.

SATIN SULTAN: A worsted cloth somewhat on the order of bengaline, made with a satin finish; much used in Asiatic and African trade for dressgoods.

SATINET, SATINETTE: 1. A thin or imitation satin cloth.

2. A strong cloth made of cotton warp and woolen or cotton filling. A four-shaft irregular twill weave, the 1-up and 3-down, 2 ends of right-hand twill followed by 2 ends of left-hand twill is used. This weave has the tendency to give a rather satin-like effect to the goods after fulling, flocking, shearing, and pressing. The cloth is finally printed in stripes, checks, and plaids to simulate cassimere.

3. Another name for the so-called four-end irregular satin weave which is popular as a ground weave in making brocades.

SAVED LIST FABRIC: English way of expressing a dyed fabric with a white selvage; resist yarns may be used in the selvage to keep them white during the piece dyeing.

SAXONY: 1. A soft-feeling, well-finished flannel made from Saxony wool.

2. A high grade, finely twisted knitting yarn used in the better type of fabrics.

3. The high grade, Class 1 wool of the Merino wool group.

4. A woolen or worsted fabric of superior quality made from Saxony wool raised in Germany, and used for men's evening wear garments; prices range from one hundred dollars upward.

5. The name of certain high grade, soft feeling, face-finish overcoating cloth which retails for about one hundred dollars per garment.

SAXONY CARPET: A low quality Wilton carpet which has a soft pile effect but is not as resilient when compared with a worsted Wilton. The designs do not have the cleavage and detail of the latter.

SAXONY CORD: An old-time European fabric made of cotton warp and wool or worsted filling. Serves the clergy for cassocks, robes, etc.

SAXONY MERINO: From the old Spanish Merino breeds of sheep that were given to the Elector of Saxony in the 18th century. Since the time of the importation of these sheep into Germany, the breed has been steadily improved until today it ranks with the Class 1 Merino breeds of sheep. This breed copes with Ohio, Silesia, Rambouillet, Australian and Argentine Merino wools.

The term now seems to imply fine wool, whether of Saxony or not, raised in Germany, Austria and other Continental wool growing areas. The wool is very fine in diameter, short in staple and ideal for French combing methods, soft and has excellent felting properties. Also known as Electoral Wool in some circles.

SAXONY WOOL: Merino wool which is native to Saxony, Germany, but is now raised in other wool raising areas. Characteristics of the wool include fineness, strength, elasticity, excellent felting properties, high number of serrations per inch. A Class 1 wool, it is used in the best of woolen and worsted materials, particularly those which can withstand considerable fulling and milling.

SAXONY YARN: High grade knitting woolen yarn given twist.

SAY CAST: Coarse wool obtained from the tail area in fleece wool.

SCAPULARY: A monastic woolen garment with hood or cowl attached; originated with the Benedictine Order of monks, founded in 529. The hood or cowl is popular from time to time in the varying trends of fashion and style, chiefly in evening wear.

SCOTCH BLACKFACE: A well-known breed of sheep which produces much long carpet wool. The fibers are very strong, rugged, and ideal for use as "filling fiber" in the manufacture of rugs and carpets. The sheep are wild, hardy, and withstand the rigors of weather very well.

Blackface is raised on the moors of Lancashire and Yorkshire, England, in Scotland and on the Hebrides, Orkney, and Shetland Islands. It is now raised to advantage in Oregon.

SCOTCH CARPET: Pile carpeting on the order of Kidderminster with designs on both sides but in different colors.

SCOTCH FEED: A popular attachment used to take carded wool sliver from the first breaker card and present it to the intermediate card or cards. The sliver web is formed into a band or ribbon which is carried on a lattice apron to the next card, where there is a reciprocating motion whose duty it is to lay the stock in overlapping folds to make the lap.

SCOTCH FINGERING: Spun from native Scotch wools this knitting yarn is of the fluffy type and low in twist; ideal for knitted garments in cold weather.

SCOTCH FINISH: Name applied to overcoatings of the tweed, homespun and cheviot group that possess a loosely shorn nap.

SCOTCH TWEED: Made on a 2-up and 2-down twill with white warp and stock-dyed filling or vice-versa. The stock colors are usually rather vivid in order to give contrast in the fabric. Fiber staple in the yarn is usually variable and is irregular in appearance; often this shagginess seems to add to the looks of the material. Always popular, the cloth is used in suiting, topcoating, sport coating, some overcoating.

SCOTS: Soft British dressgoods made of hard-twist worsted yarn; made in serge weave.

SCOURING: The freeing of wool from yolk, suint, dirt and all other foreign matter. It may be done by washing with soaps and alkalies, by treating with solvents or chemicals, or by napthalating the stock at below freezing temperatures. Loss in weight in scouring the fleece ranges from about 35 per cent in low grade wools to about 65 per cent in the best types. Yolk serves as the basis for cosmetics, salves, etc., while the dried perspiration or suint is used in making potash.

SCROLL ROPES ON THE MULE FRAME: A scroll is a grooved plate which has a spiral groove from the core or center, that extends to the outer edge. The rugged friction rope is caused to wind and unwind by the action of the scroll when the frame is in operation. The friction afforded by the rope aids in even running of the machine, prevents jerkiness of action and helps to produce uniform yarn. The quadrant scroll helps to raise and lower the quadrant and its parts. There are several scrolls on the mule.

The ropes, which work on the principle of a hoist, take up on tension, prevent slippages and breakages to considerable degree.

SEALSKIN CLOTH: Heavyweight pile fabric made to simulate seal fur; construction is a cotton ground with mohair used for the pile-effect.

SEBASTOPOL: Twilled face material of characteristic finish. Named after the famous fortified town of the Russians captured by the French and English in 1855.

SECOND COMBING: Wool obtained from the back area of the fleece, across the loins to the neck.

SECOND COMBING NOIL: Worsted stock that is run through the combing operation a second time; this causes increased noil, amounts to about 5 per cent, and is more valuable than the first combing noil.

SECOND CUTS: Careless shearing of sheep whereby the flesh may be cut, but particularly the clipping of wool fibers from areas that have previously been shorn. Short fibers are the result of second cutting.

SECONDS: 1. Wool obtained from the chest and throat of sheep.

2. Woven or knitted goods that cannot be rated as firsts. Imperfections in weaving, knitting, finishing, etc., may injure the goods to the point that they have to be classed as seconds; obviously these bring lower prices to the manufacturer.

SECTION BEAM: A cylinder, four to six feet long, upon which many sections of warp, yarn that is to run vertically in the woven cloth, are wound in parallel layers ready for use in the loom.

SEEDY WOOL: That which contains vegetable matter difficult to remove from the wool without carbonizing.

SELVAGE: The rather conspicuous edge of narrow listing on the edges or sides of cloth, which is part of the fabric and is not sewed on, to prevent raveling out of the woven threads in the goods. Also known as Listing, Selvedge, Self-edge.

SELVAGE, IMPERFECT: A selvage serves a double purpose; first, as a binding point for the filling when weaving; second, as an aid for maintaining the proper width when dyeing and finishing a fabric.

To be imperfect a selvage may be: uneven (with respect to its own width), tight, loose, thin, thick, or narrow. A selvage must be matched to the fabric it is supporting. This is done by trial-and-error or by the use of previous experience.

Weaving imperfections directly due to faulty selvages are broken picks, bowed filling, over-beating, loom stoppage, loose selvage, shiners.

The troubles of the dyer are multiplied by poor edges. Tight edges cause bowing; loose edges give a scalloped appearance; thin or narrow selvages slip through the tenter clips; thick edges "build-up" at the edges, causing dye streakiness, especially in jig dyeing.

Imperfect selvages are caused by the incorrect diameter of the yarn, poor slashing or warping, and the use of a selvage yarn that has a different coefficient of contraction than the body yarn.

SEMI-BRIGHT WOOL: Wool which is not sufficiently bright to be classed as Bright. It is brighter than Territory Wool, with which it is often compared.

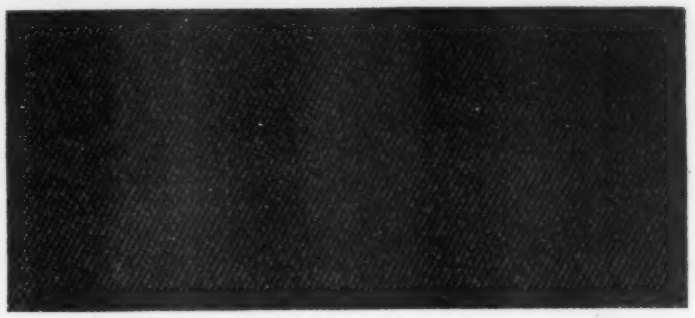
SEMI-FINISH: Differs from clear finish in that it shows a slight nap effect on the face of the goods. In a semi-finish fabric the weave is easily discernible, but not as markedly as in the case of clear finish materials. Cassimere, serge and the fancy-design worsted suitings and dressgoods come within the scope of semi-finish.

SEMI-STAPLE: Often applied to various brown and gray shades in serge, diagonals and stripes. It has been said that the fancy of today will be the staple of tomorrow; semi-staple can also include fabrics in the trade which are "in-between" the fancy range and the staple range. These cloths are not always in demand. Examples may include whipcord, duvetyne, Florentines, Henriettas, Zibeline, etc.

SENNA KNOT: A piece of yarn encircles one thread of warp and is twisted so that its ends appear at the surface, one at each side of the adjacent thread of warp. Also spelled Sehna, the knot is used to secure the tufts of pile yarn in hand-made Oriental carpets and rugs.

The other type of knot used in this phase of textiles is the Ghiordes knot. Of the two knots, Senna admits of more compact weaving and defines the pattern clearer than does the Ghiordes knot. It finds much use in short-pile rugs and carpets; used in Chinese, Turkoman, Persian and some Indian rugs. Originated in the city of Senna in western Iran.

SERAPE: A vividly colored woolen blanket used in Mexico and Central America.



SERGE: Popular staple, diagonal worsted cloth, dyed in piece and may be made in mixture or fancy effect. It is possible to stock-dye and yarn-dye the material, but piece-dyeing is preferred. The name is derived from the Latin "serica." This would imply that the cloth was originally made of silk. The weight of serge runs from 10 ounces upwards and it is one of the most staple of cloths. Made of wool, worsted, cotton-worsted and in other combinations. Clear finish is given the material although unfinished and semi-finished serge is on the market. Mohair serge is used as a garment lining. A 2-up and 2-down right-hand twill is used in constructing the cloth, 45-degree angle. The quality and price range is from the lowest to the highest because of the call for all types of serges. It is a formal, dressy type of cloth and is conventional at all times. Serge holds the crease very well but will shine with wear. This shine cannot be removed permanently. It is a good cloth in tailoring as it drapes and clings very well.

Rayon or silk serge is of high texture, smooth finish and is a rugged type of fabric. Used for coats, children's wear, dresses, men's suits, sportswear.

SERRATIONS: The minute, saw-toothed, projecting scales found on wool fibers; they aid considerably in the felting of wool fibers by interlocking to form a matted area. Serrations will vary from about 600 to about 3,000 per inch in the wool fibers, depending on the grade or quality of the fiber; the higher the number of serrations, the better will be the quality of the fiber.

SET: 1. Width of a warp in the reed in the loom.

2. The number of machines in the carding plan of a mill. A three-set layout will consist of first breaker, intermediate or second breaker, and the finisher-condenser card. A four-set layout includes the first breaker, second breaker, intermediate and finisher card. The size of a woolen mill is gauged by the number of cards it has; cotton mills are gauged by the number of spindles.

3. The total number of section beams necessary to make a loom beam.

4. The same as texture of a fabric — the number of warp ends and filling picks per inch in a woven fabric.

SET AND DROP MATCH: In a set match carpet pattern, the figure matches straight across on each side of the narrow carpet width; in a drop match, the figure matches midway of the design; in a quarter drop match, the figure will match one-quarter of the length of the repeat on the opposite side.

SETS IN WOOLEN AND WORSTED CARDING: Worsted carding is done by a double-cylinder card, two cards that are connected by means of a roller known as the angle stripper. This roller, similar to a doffer roller, takes the carded wool from the first card in the set and delivers it to the feeding-in end of the second card. The number of operations that follow worsted carding do not warrant any other treatment, as far as carding is concerned, to the wool.

Low and medium wools for wool yarn are run on a three-set card. The machines are: first breaker card, second breaker card, and the finisher-condenser card.

High grade wools for wool yarn are run on a four-set card. The machines are: first breaker card, second breaker card, finisher, and condenser.

The last card, in either the three or four-set arrangement, has the wool in the form of roving ready to be presented to the spinning frame for the final operation in wool yarn manufacturing, spinning.

SHADED CLOTH: Cloth that is uneven in color, cast, or tone. There are many reasons as to why cloth may become shaded; some defect or irregularity in any operation or treatment will cause shadiness. If the markings are too pronounced, the cloth is classed as a second.

SHAFTY WOOL: High type, even, lofty and elastic, good length wool.

SHAKER FLANNEL: Named for a religious sect known as Shakers. This material is napped on both sides. It is made of cotton, wool or mixture yarn and is used for underwear, night clothing and shirts.

SHANKINGS: Short, coarse wool obtained from the shanks of the sheep.

SHARKSKIN: 1. A term which has become very popular in the textile trade; it has a very broad meaning, since it was first applied to high-grade worsteds made from a 2-up and 2-down, color-effect weave arranged in the warp and the filling, one colored thread and one white thread. The finish on the goods is smooth because of the yarn and texture used. Despite the fact that the cloth comes in light weight, it has a very substantial feel, gives excellent wear and sheds dirt readily.

2. A tightly woven oxford weave cloth in which the warp is drawn in "two ends acting as one end" and woven on a plain weave construction. The fabric is usually made of acetate or pigment rayon. The cloth is made both plain and in woven plaids; the plain cloth is sold in white, pastels, and prints. The material, which is used in dressgoods, shirting, and sportswear, has excellent drapability and launderability qualities.

3. A lustrous, waterproof raincoating fabric.

4. A tough, durable leather made from shark hide.

SHAWL WOOL: Also known as Pashmina, it is the fine hair-fiber fleece grown by Thibetan goats to be used in making Kashmir (Cashmere) shawls.

SHEAR: 1. Common name for a shearing machine.

2. To clip, cut, even-off or sever from something; shearing of sheep and the removal of protruding or superfluous fibers from cloth are examples.

SHEAR HOG: Sheep, after the first shearing, are known by this term.

SHEAR MARKS: An unevenly marked or cut nap on material. Slubs or knots often tend to make for unevenness in shearing. Burlers, speckers and menders are ever on the lookout for places in cloth that might be nipped or caught by the razor-edge blades on the sheer. Shear marks show up to poor advantage when light strikes the fabric.

SHEARING: The operation of leveling the nap on cloth is much used in the woolen and worsted trades, as well as in the case of certain cotton fabrics. Shearing regulates the height of the nap or protruding fibers found on the surface of goods. The machine used may have one or two sheat blades. A blade is exceedingly sharp in order to shave, shear or cut off the undesirable portions. It can be arranged or set to leave a certain height of even, uniform nap on goods since the blade can be raised or lowered, as desired. The blade is regulated to the thirty-second part of an inch. Thus, a nap could be 4/32 or 6/32 of an inch in height.

The blades are on the principle of those on a lawn mower. The material to be sheared passes under the blade and all fibers longer than the setting of the blade are taken off neatly and cleanly. There remains an evened-off surface on the fabric that leaves a sort of pile effect.

Goods may be run through the shear any number of times to produce a good surface. The operator has to be on guard constantly to watch for knots, loops, or other parts of the cloth that may be cut, and thereby rip a goodly portion of the material. When these raised places come around to the blade the shearer raises the blade to admit the passage of the cloth underneath. These blemishes are later cared for by the menders and sewers before the cut of fabric is finally passed.

SHEARLING: English term for yearling or a one year old sheep. Also means short wool pulled from the skins of sheep prior to slaughtering.

SHED: This is the V-shaped opening slightly in back of the raceplate of the loom that is formed when some of the warp ends are raised and others are lowered by their respective harnesses. It is the opening through which the shuttle passes laying the loose pick. Forming the shed is the first action in weaving, followed by picking and lastly, beating, the actual beating of the pick into the cloth by means of the reed action.

SHEDDING: The first of the three motions of a loom in weaving cloth. Picking and beating-up are the other two chief motions. Shedding is the raising and lowering of the warp ends by means of the harnesses and heddles to form the shed of the loom so that the filling bobbin in the shuttle may pass through it from one side of the loom to the other side. As the shuttle passes through the shed it lays the loose filling pick between the raised and the lowered warp ends.

SHEEN-TYPE RUG: Another name for a Domestic Oriental rug.

SHEEP: Any animal of the ruminant or chewing-the-cud genus Ovis. Closely allied with the goat, sheep are raised for mutton and carcass. Compared with the goat, it is fleshier, less active, general absence of horns, and possesses a thick coat of fiber.

Sheep are classified into fine, medium and long wool breeds. The Merino breed is the best in grading and it produces a very fine fiber; medium wool is typified by the so-called Down Sheep, which originated in England. Long wools are those which are lustrous, long in staple length and more irregular in properties and characteristics when compared with fine and medium types. Lincoln and Leicester sheep are typical in this group.

Wild sheep of varying species live in the higher mountain ranges of the world, chiefly in the Northern Hemisphere.

SHEEP-DIP: The application of a liquor to the fleece or skin of sheep to kill vermin or to preserve the wool.

SHEEP FLEECE: The weight of a fleece ranges from 6 to 18 or 20 pounds, dependent on the breed and local conditions. The fleece, when received at the mill, must be sorted. From four to twenty distinct grades may be obtained from the one fleece, dependent on the rigidity of selection. The following shows the type of stock taken from the fleece, when it is sorted:

1. Top and Sides of Head: Noted for length of staple, softness, pliability, and uniformity. Superior in all respects to wool taken from any other part of the fleece. This is made possible because the yolk is unimpeded in its flow through the pores into the fleece, which gives nutriment to the fibers and makes for fiber density per inch.

2. Upper Part of Back: High quality, just below the wool taken from the top and sides of the head, in all respects.

3. Loin and Back: Short staple, not quite as fine, of unvarying quality and character. This stock may, however, run to the tender side a trifle.

4. Upper Legs: Medium staple, rather coarse, and has tendency to hang rather loosely. The locks are open. All told, the wool is of sound quality. The stock has varying portions of vegetable matter in it.

5. Upper Neck: Inferior in quality, irregular in growth, often matted with foreign and vegetable matter.

6. Center Neck: Similar to upper neck stock, but of more tender nature.

7. Belly: Wool from fore and hind legs, and vicinity. It is short, dirty, tender, irregular, and has much foreign matter — motes, dried grass, burrs, shives, etc.

8. Rump: Taken from rump and tail root. Inferior in most respects and of little value and use. Inclined to be dungy, matted, and kempy.

9. Lower Legs: Dirty, greasy, kempy, burry, and poor in quality.

10. Front of Head, Throat, and Chest: Straight, stiff, and coarse. Covered with much foreign matter, including fodder.

11. Shins: Short, thick, straight, glossy or shank wool.

SHEEP OF THE WORLD, CLASSIFICATION OF THE: From the 40 distinct breeds of sheep there are over 200 types which are the result of cross-breeding. Sheep are classified for practical purposes into five classes. They follow:

Class 1: Includes Merino sheep only. This wool is the highest, finest and best obtainable.

Class 2: Wools from sheep that originated in the United Kingdom and come from the coastal counties. These sheep are now raised all over the world, and formed, with the Class 3 wools, the nucleus for cross-breeding. Many of the sheep in Class 2 take their names from the counties where they were first raised. They are below Merino in all respects, but are classed as "good" and "very good."

Class 3: Wools taken from sheep in this class are called Luster Wools. They have the property of reflecting the light's rays, are long in staple, with a length from 1 to 12 or more inches.

Class 4: All sheep that cannot be classed in the first three classes are placed in Class 4. The properties, characteristics and qualities are such that they do not measure up to any of the foregoing classes. This class now includes sheep that are standardized, as well as some "mongrel" breeds found in remote sections of the world where animal husbandry has made little headway.

Class 5: This class is not wool, but includes fibers that resemble wool. The fleece does not, of necessity, have to come from a sheep. Arabian, Caracul, Astrakhan, Persian lamb and similar fibers make up this group.

USES OF THESE WOOLS:

Class 1: In the very best grades of woolens and worsteds for men's wear and women's wear. It is used for the most expensive fabrics, such as suitings, dressgoods, coatings, ensembles, and so on.

Class 2: Used in the better grade of textiles for apparel.

Class 3: Used for rugged, coarse materials, such as tweeds, homespuns, cheviots, sport cloths, and low grade worsted fabrics.

Class 4: Finds use in low grade suiting and apparel, rugs and carpets, trousering, blankets and in popular priced fabrics.

Class 5: Used in coatings under their original names, in the fur trade.

NAMES OF THESE WOOLS:

Class 1, Merino: Ohio, Silesian of Austria, Saxony of Germany, Rambouillet of France, Australian, South American, South African, New Zealand, Spanish, Swedish, Danish, Prussian, Hanoverian, and so on.

Class 2, English Straight: Bampton, Berkshire, Blackface, Cornish-Cornwall, Devonshire, Dorset, Durham, Canadian, Hampshire, Hereford, Exmoor, Kent, Norfolk, Shropshire, Southdown, Sussex, Oxford, Welsh Mountain, Wiltshire, West Riding of Yorkshire, Shetland, Westmoreland, the Irish, Ryeland, and so on.

Class 3, English Luster: Lincoln, from Lincoln County; Leicester, from Leicester County; Cotswold, from Gloucester County; Romney Marsh, from Kent County; Cheviot, from Highlands and Lowlands of Scotland, Shetland, Hebrides, Harris and Lewis Islands, and so on.

Class 4, Mixed Breeds: These low grade sheep are called Halfbreed and Demi-luster sheep and are the result of little scientific care.

Class 5: See above, under heading.

DATA ON THESE WOOLS:

Class.	Fiber length in inches.	Diameter in inches.	Serrations per inch.	Ram weight in pounds.	Ewe weight in pounds.	Fleece wt. in lbs.
1	1 to 5	to 1/1800	to 3000	150-235	105-155	17-22
2	2 to 7	to 1/1350	to 2000	180-280	145-220	6-18
3	4 to 18	to 1/1000	to 1000	225-285	175-240	9-16
4	7 to 11	to 1/800	to 900	200-275	160-220	6-14

SHEEP RANGE: The large grazing areas for sheep in the western sheep raising areas; may run for hundreds of square miles.

Sheep Shearing — by Millet.

SHEEP SHEARING: Clipping of the fleece from the hide of the animal. Done annually in the spring, except in Texas and California, where, due to climatic conditions, the sheep are shorn bi-annually. Texas and California wools bring a lower price in the market because the fleeces are more or less infested with small spiral burrs that are detrimental until removed from the fleece. Much of this wool, however, is of good quality.

Hand or power clippers are used in shearing. There are professional shearers who travel from place to place to perform the work. They are paid so much per fleece. In the shearing season these workers shear from sun-up to sun-down on a piece work basis. Good shearers are usually extremely well-paid.

The fleeces, as they are taken from the sheep, are thrown to a helper who stands at the top of a high stand which has the top of the burlap bag fastened to it. This tender boy drops the fleeces, as he catches them, into the bag so that they can be moved quickly from place to place.

Shearing is now done on a scientific basis and the old days of butchering the animals to get the wool are now a memory. The Government and State College Experimental Farms have done much to improve the methods of shearing and care of the animals in all respects.

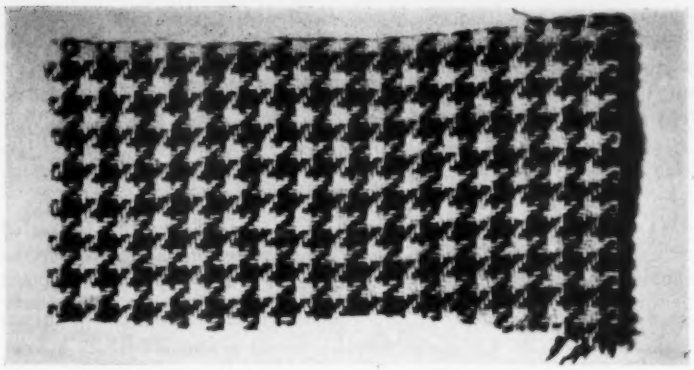
SHEEP STATION: The sheep farm in Australia. Station wagons are used for some communication and transportation.

SHEEP TICK: A wingless pest which lives on, and sucks the blood of sheep. Sheep are often dipped in larkspur solution or other dips to kill the insect.

SHEEPSKIN: 1. Sheepskin with the wool still on the pelt or skin. Uses include basis for "mouton fur coats," jackets for aviators and folks who live in very cold climates, garments, gloves, lap robes, etc.

2. Serves as the parchment for college degrees.

3. The leather taken and prepared from the skin of the animal following the removal of the wool fibers. Often finished to simulate more expensive leathers.



SHEPHERD'S CHECK OR PLAID: Used for suitings, cap cloth, coatings, dressgoods, sportswear. Made of cotton, woolen, worsted or silk. The cloth shows black and white checks or plaids. Other color combinations are used as well. The design resembles the Scotch Shepherd plaid or check. Some of the cloth, because of the color combinations used, has the tendency to cause the eyes to "jump" and some people soon tire of the cloth. Conservative designs, however, are much in demand by the trade. There is a wide range of quality and price. In producing the check the warp and filling arrangement is four black and four white, ends and picks. The weave should begin with the "raisers" up in the lower left hand corner of the weave. If this is not adhered to, a straight check will result, which is not, strictly speaking, what is known as Shepherd's Plaid.

The pattern is found in particular fabrics made from any of the major fibers.

SHETLAND: 1. A suiting fabric made wholly or part of Shetland wool. The cloth has a raised finish and a rather soft handle. Very popular for suiting and sportswear.

2. A soft knitted fabric made of Shetland wool.

3. Loosely applied to various soft-handle woven or knitted fabrics that do not contain Shetland wool.

SHETLAND FINISH: The characteristic shaggy finish of protruding fibers on many woolen cloths. The fabric does not have to be made necessarily of Shetland wool to use the name.

SHETLAND SHEEP: Originated in the islands of this name off the coast of Scotland. This primitive breed has been modified by cross-breeding with Blackface and Cheviot sheep. These hardy sheep grow a coarse outer coat of fibers and a fine under coat which gives added warmth to cope with the severe winter weather in this area.

SHETLAND WOOL: This sheep produces fine, lustrous fiber and the real wool is the undergrowth found under the longer fibers. It is not shorn, but is pulled out by hand in the spring of the year. Comes in white, brown and gray casts and is classed as a costly fiber.

Uses of Shetland include hosiery, underwear, fine shawls, crochet work and apparel fabric for men and women. Shetland cloth is in the same family group as homespun, tweed and cheviot.

SHINS: Short, thick, straight, glossy wool and called shank wool in the trade.

SHIRTING FLANNEL: A plain or twill woven, woolen or worsted flannel which comes in plain, mixed or colored effects; varies considerably in texture, weight and price. May also be made from various blends and mixtures.

SHIVY WOOL: Vegetable matter found in wool — burrs, dried grass, fodder, motes, shives, etc. In some circles the meaning implies vegetable matter other than burrs found in wool.

SHODDY: This term refers to reworked fibers, of which there are two sources:

A. Fibers recovered from new rags or tailor clippings which were never part of a worn garment.

B. Fibers recovered from old rags which were part of worn garments.

In either case, reprocessing tends to weaken the fibers. It is significant to note that a good shoddy made from high grade woolen rags may be of better quality than a lower grade fleece wool.

The poorest grade of shoddy is obtained from felted material and is known as mungo.

SHODDY MIXTURE YARN: Yarn made from varying combinations of reworked fiber and new stock; a very general term.

SHOOT: A filling pick in the carpet weaving trade.

SHRINKAGE: 1. When fabrics are shrunk there is a loss in length, width, area, weight, etc. Textile testing is resorted to in order to assure residual results which will be satisfactory to the buyer of the material in question.

2. The loss in wool scouring when yolk, suint, and other foreign matter are removed from the actual wool fibers in the piece. Fully scoured wool is called the yield, scoured state or clean basis. The greater the loss in weight and volume, the higher will be the quality of the wool.

3. Testing a material in order to remove any tendencies it might have toward shrinking and to inform the customer with regard to residual shrinkage of the goods in question.

4. Woolens and worsteds are "pre-shrunk" before they are sent to the cutting-up house for "cut-fit-trim." Done with steam or cold water.

SHROPSHIRE: This county in England is the home of this popular British Down breed. Noted for both wool and mutton production. Staple is about three inches, the fleece weight averages nine pounds and the quality ranges from 50s to 56s.

SHULAH WOOL: Gray wool from the Shetland Islands.

SHURLED HOGGETT: The first fleece from a sheep after it has been shorn as a lamb.

SHUTTLE: The device which carries the filling yarn in its course through the shed of the loom in weaving fabric. Power loom shuttles are made of dogwood or persimmon, properly aged. There is a metal tip at each end of a shuttle. The filling bobbin is set into the open space provided for it in the shuttle and there is an eyelet at one end so that the filling may unwind rapidly as it is shot through the shed from the shuttle box on the one side of the loom to the box on the other side of the machine. Worsted looms average about 125 picks per minute, that is, the shuttle flies back and forth that number of times per minute from box to box. This number may vary somewhat, dependent on fabric being made and other local conditions.

SHUTTLE BOXES: The containers on each side of the loom that receive the shuttle as it comes through the shed of the loom. Shuttles fit very snugly into the boxes. They are forced and thrown from the boxes by the picker stick, which is located at the end of the lay of the loom. Lug straps and rocker arms aid the picker stick in its action.

Cotton, silk, woolen and worsted looms are made with a single box, that is, one box on each side, also a 2-to-1 box plan (two boxes on one side, one on the other side); likewise, on a 4-to-1 plan, and a 4-and-4 plan, known as a pick-and-pick loom, as well as a 6-to-1 arrangement. In the 2-to-1, 4-to-1 and the 6-to-1 plans the filling is inserted in multiples of two. In the pick-and-pick plan, 4 by 4, the filling can be inserted 1-to-1 as to arrangement and seven different colors or shades can be used.

SHUTTLE MARKS: When a shuttle, prior to its work in the loom, takes on oil, grease or other detrimental matter, the effects are almost certain to be seen in the woven gray cloth. These marks, which give no little trouble in finishing cloth, are often caused by carelessness on the part of the weaver.

It is almost impossible to remove shuttle marks from cloth during finishing. Sometimes the blemish is caused by the filling being pressed against the binder and the resultant mark is squeezed into the fibers or filaments of filling yarn.

SICILIAN: Lining fabric made of plain weave; fine cotton warp and mohair or luster worsted filling. Staple in the trade.

SICILIENNE: Made of silk or rayon warp and cotton or woolen filling, the material is on the order of bengaline; never a too popular material.

SIKKIM: India furnishes this Bera breed of sheep, which has a coarse, ashy-type wool which on annual clippage basis produces a fleece of only three pounds.

SILESIA OR SILICIA: 1. One cloth of this name is classed as a fine, window Holland or shade cloth. It is heavily sized and given a glazed finish.

2. Another cloth is a lining material made usually in gray or black, well calendered and given a smooth, luster finish. A three-harness, filling twill weave is used in construction.

3. Silesia is the name given to Merino wool of Austria, the same as Saxony implies wool of that grade raised in Germany. It is a Class 1 wool, comparable with Ohio Merino in this country. This wool ranges from 1 to 2½ inches in fiber length, has a diameter of about 1/1700 inches, about 2,800 serrations to the inch, with a fleece weight of 16 to 19 pounds. Silesia wool is used for the better quality worsted fabrics.

SILING: This native sheep of the Himalaya Mountains area gives a short but fine diameter wool fiber.

SILK MIXTURE CLOTH: Worsted and cassimere material used for suitings and dressgoods produced by interspersed weaving of all-silk threads or by the use of woolen material twisted with silk. The use of the silk tends to give decoration to the cloth and enhances the pattern.

SILVERTONE and GOLDTONE: A coating cloth made from woolen or worsted warp with woolen filling. Fabric is stock-dyed and weight goes from 16 to 24 ounces per yard. Material is heavily napped. Construction may be single or double. The cloth gets its name from the fact that strands of gold and silver colored threads are worked into the face of the material. This produces a gold or silver sheen to the fabric which is usually attractive.

SINGLE WARP: In regard to yarns, per se, the warp threads in the cloth are single, as distinguished from two or more ply. In reference to fabric construction it is a single system of warp threads where there is, perhaps, a double system of filling threads.

SINGLE WOVEN FABRIC: This cloth is made with two sets of threads; one set, the threads which run vertically in the goods, is known as the warp; the other set, the threads which run horizontally in the material, is known as the filling. The terms, ends and warp, are considered as synonomous; picks and filling are likewise synonomous.

Selvage, selvedge or listing, the characteristic edge of the goods, always runs in the warp direction. This is naturally a part of the fabric and does not go to waste in tailoring. However, in dressmaking, it is sometimes cut off before the cloth is cut.

SINGLE YARN: One that has not been plied; the result of drawing, twisting and winding a mass of fibers into a coherent yarn.

SINKAGE: Meaning the same as shrinkage, it implies the loss in weight in wool scouring operation.

SIRE: Means the same as ram.

SIXTH COMBING: Wool obtained from the sheep fleece from the area covering the lower part of the thigh; also known as Breech.

SKEIN-DYED YARN: The yarn is first spun in its natural color, and dyed later in skeins. This method of dyeing is used when varying quantities of single color are needed.

SKIN WOOL: Taken from the pelts of slaughtered sheep by the sweating, lime, or slipe methods.

SKIPPING: Detrimental to good weaving, harness skips are caused by an irregular height of the harness or harnesses in the shedding motion of the loom; skipping areas must be fixed immediately.

SKIRTING: Removal of the outside and lower grades of wool and matter from the fleece-clumps, britch and dungy matter. Australian wool is always skirted before shipment; a great point in favor of their wools. Australians take great pride in the fact they ship clean fleeces.

Shears are used to skirt fleeces. Skirtings have very little or no value at all.

SKI CLOTH: Fabric of wool, cotton, mixed stock used for any type of outdoor wear in the winter. Cotton ski cloth is water-repellent. See Mackinac, Snow Cloth.

SLAG WOOL: This is prepared by blowing steam through molten lead. It can hardly be called a textile fiber, but since it is used the same as some fibers in packing, it may be classified as such. England calls it silicate cotton.

Slag wool is not spun into yarn like asbestos, the greatest of mineral fibers. It is used as a felt because it is made up of its fine interlocking mineral fibers that enclose a mass of minute air cells, which give it the property of a good non-conductor of heat. In short, slag wool is a by-product of the blast furnace.

SLAT: Colloquialism for a sheep's hide from which the wool has been pulled prior to any other treatment.

SLEAZY: Any cloth which appears limp or lifeless, a condition caused by poor quality of stock, improper finishing, faulty yarn, low pick count, etc.

SLIPE WOOL: That obtained from dead sheep by the lime process. This type of wool is difficult to wash and is very harsh and coarse in character.

SLIVER: A rope-like form of fibers partially or totally parallel, usually about three-quarters of one inch to about one inch in diameter, in its uncompressed state. It is the product of cards, combers, gill boxes, and drawing frames. The weight of the sliver is usually shown in grains or ounces per running yard.

SLIVER, CARDED: The fibers of the sliver are laid parallel and the short, immature fibers are removed and are called strips. They may make up about 4 to 6 per cent of the waste on the machine. The sliver is uneven in weight because of the stripping of the doffer and the cylinder. When the cylinder and doffer are full and require stripping, a heavier sliver will result. Immediately after stripping of the rollers, a lighter sliver will be apparent. The variation of weight per yard in card sliver is greater than the variation noted in combed sliver.

SLIVER, COMBED: With some short fibers removed from the stock prior to the combing operation the sliver naturally will be even, uniform in fiber length, and may possess a luster. Combed sliver, when compared with carded sliver, is stronger, cleaner, more parallel, and has a greater tensile strength.

SLUB OR TOP DYEING: Worsted top may be dyed in several ways, one of which is the Abbott Method. The untwisted sliver is run through a specially designed gill box and is then wound on a perforated dye spool through which the dye flows, penetrating the surrounding sliver.

SMASH: Place in a piece of cloth, still in the loom, where a large number of warp ends have become broken. It is caused by the lay beating up the shuttle while the latter is still in the shed, because of some irregularity made on the spur of the moment or by two shuttles coming together in the same shed because of the weaver putting a shuttle in the wrong box before starting up his loom after a stoppage. Smashes hinder production greatly as time has to be taken to tie or twist in the broken ends. Harness skips and slivers on shuttles will tend to break out ends of the warp.

SMOOTH MERINO: Same as C-Type Merino wool.

SMYRNA RUG: A reversible chenille rug or carpet which consists of a double weaving process. The first weaving process is the making of the weft or filling blanket, the warp ends of which are twisted or crossed over so that when the blanket is cut into strips the cut ends of yarn will tend to turn alternate ways, making a round chenille.

The second weaving process consists of a loom with a cotton warp making a row of plain weave while the chenille is deposited in the one shed of the loom and the jute filling is placed in the alternating shed, interlacing with the warp yarn to give body to the fabric.

Smyrna rugs can be made in plain or figured design and may be cheap or expensive, depending on the materials used and the texture of the goods. Many inexpensive cotton bath mats are made on the Smyrna plan of weaving.

SNARLING MOTION: A spinning mule action which throws the rollers out of gear shortly after the mule carriage has begun its outward run.

SNARLS: Loops or curls seen when yarn is being mule spun. They are caused by improper tension or poor atmospheric conditions.

SNICKS: Thin places in yarn which cause trouble in weaving.

SNOW CLOTH: A term for fabrics designed for outdoor winter use. It may be applied to meltons, kerseys, heavy flannels, and similar fabrics.

SNOWFLAKE: English woolens which have white nubs, salt and pepper effects, or bourette yarn giving a flake effect on the face of the goods.

SOFT GOODS: English term for dry goods.

SOFT WASTES: In the gilling and drawing processes in worsted yarn manufacture, before the actual spinning, there are wastes from sliver, slubbing, top, and roving. The term, soft waste, is rather misleading, since the stock has lost none of its value. It can be worked with other stocks and the only loss is the time in handling it and the labor entailed. The expense of handling the stock twice is negligible. Little of it is offered for sale, since most mills consume their own wastes.

Soft wastes sell for about the same price as scoured wool of equal quality. Similar soft wastes, such as sliver and slubbing, are produced on the woolen system. They are reserved for use in identical lots that will be run through later.

Wastes, such as card strippings, fly and floor sweepings, are subjected to treatment in the waste dusting machine. This stock is unsuited for blending in lots intended for certain cloths of medium or better quality. Dealers buy this stock wherever possible and dispose of it to mills that make woolen blankets or low quality cloths.

SOMALI FAT-RUMPED SHEEP: This Asiatic breed ranges from the Black Sea and European areas to Central Asia, China and Siberia. One of the largest with regards to numbers, the nomadic tribes such as the Kalmuks, Kirghiz and Mongols herd very large flocks of these sheep. Many flocks have more than 10,000 sheep. Russia is now improving these sheep in the Siberian area.

SOMMIERE: An all-wool French serge, napped on one side, used for lining of winter garments. It comes in bleached, ecru and colored effects.

SORIA: A harsh wool raised in Spain.

SORTED WOOL GRADING: There are two methods used to designate the grades of sorted wool. The Blood System is used in this country; the Count System is used in other world centers for wool, and is also increasing in use here. Both systems pertain to the average fineness of diameter of the fibers.

Originally, the Blood System of grading fine wool was used to grade the fine wool grown by the Merino sheep, the criterion used; coarser grades were considered the result of crossing Merino sheep with English breeds.

While still used to designate wool fineness, it does not now indicate the true strain of breeding.

The Count System had as its basis the theoretical limit spinning count of wools of certain fineness, that is, the finer the wool the finer will be the yarn that can be spun from it. The following table reveals the relation between the two systems:

U. S. Blood Grades:	*Count Grades:*	*Approx. Per Cent of U. S. Clip:*
Fine	64s and finer	49
½ blood	58s to 60s	15
⅜ blood	56s	21
¼ blood	48s to 50s	13
Low	46s and coarser	2

The grades of apparel wool produced in this country rather closely approximate the percentages of the different grades customarily used here.

SORTING: The separation of a sheep fleece into the several grades desired by the wool sorter. The wool is graded for fineness, length, soundness of fiber, elasticity, spinning and other working properties. A wool fleece may be divided from four to twenty distinct grades, dependent on the rigidity of sorting desired.

SORTING PENISTON: An old-time British woolen made of shoddy.

SORTS: Wools of the same grade from the several fleeces that have been sorted by the sorter; often called Matchings.

SOUTHDOWN: The oldest of British breeds of sheep, this Down wool, reared in the Sussex Hills, gives a close, white fleece that is considered to be the best of British staples. The fleece, weighing from 5 to 7 pounds, gives a staple of about two inches and sorts to ½ blood medium grade. These hardy sheep have a fleece shrinkage of about 45 per cent.

SPANISH SHEEP: Synonomous with the term Merino, but all Spanish sheep are not of the Merino type.

SPECIAL WOOLS: A general term indicative of certain so-called short staple wools, such as Blackface, Herdwick and Welsh.

SPECKY GOODS: Small particles or specks of vegetable matter which show on the face of the material. Difficult to remove, it is sometimes necessary to speck dye the goods or to carbonize the stock prior to manipulation from raw material to finished fabric.

U. S. D. A.
Photo by Knell

SPINDLE: A long, thin rod that is used for twisting and holding textile fibers in manipulation from sliver form to spun yarn. Spindles revolve at a high rate of speed to perform their work. Bobbins are set around the spindles on machines. The sliver, slubbing, roving or yarn is wound onto the bobbins, which revolve because of the fact that they are set on the spindles of the machine.

The spindle is one of the oldest textile devices known to man.

SPINDLE DRAWN YARN: This refers to the type yarn made on the mule spinning frame. The finest crepe yarns can be made on a mule; also, the lowest twist yarns. Mule spinning is expensive; spinning mules take up considerable more space per spindle than the ring spinning frame. A mule frame is now able to spin finer counts than a ring frame; it can also spin coarser counts, as well. The chief virtue in mule-spun yarn is its evenness.

SPINDLE GILL BOX: A gill box equipped with a set of spindles so that the sliver, slubbing or roping may be wound on bobbins by the flyer in a compact, uniform manner.

SPINDLE RAIL: This runs the length of the ring spinning frame, at about knee-height, and is in the form of a channel iron with the two flanges in a horizontal position. The upper flange is drilled with holes so that the spindles may be cared for when the machine is in operation. Spacing is from 2¼ inches to 4¼ inches apart, dependent on the type of frame being used. See Ring Rail.

SPINDLE TWIST: The actual number of turns being made by the spindle on a textile machine while the rollers are delivering a one-inch unit of stock.

SPINNER TOP MAKER: A mill owner who combs his own tops and spins them into worsted yarn.

SPINNING: Arranged chronologically, the four types of spinning are: flyer, mule, cap, and ring. These are all common to the woolen and worsted industry. Most cottons at the present time are spun on either the mule or the ring frame. In this country practically all our cotton yarn is spun on the ring frame, while in Europe the mule is still by far the more common.

The earliest spinning frame employed the flyer spindle, which resembles the flyer of the present-day roving frame. The yarn was drawn from the front delivery roll down to the top of the flyer; it was then twisted around the flyer leg, through an eye, to the bobbin. As these frames ran at a low speed (up to 3,000 r.p.m.) the yarn that was produced was quite smooth and free of beard. The difficulties with this method was the low production and the strain put on the yarn by the bobbin drag.

Mule spinning allows the use of the free spindle and thereby offers a means of increasing production. The process is not continuous, since there are three distinct stages of operation, namely: drafting and delivering, twisting and drawing, and finally, winding on. The system allows spinning yarns of extreme fineness, and also with very low twists.

Cap spinning is a continuous process. In place of the flyer, a cap or bonnet is substituted. The bobbin, in cap spinning, is driven by a spindle-banding; the bobbin rises and falls within the inverted cap. The yarn comes from the delivery roll and drags over the lower edge of the cap. Here the bobbin may revolve up to 7,000 r.p.m. Since the bobbin is driven, there is only slight tension in the yarn at any time. Because of the higher spindle speed, the yarn may be a bit fuzzy. Much worsted yarn is spun on this type of frame.

Ring spinning is the most recent development and offers the best possibilities in production. Spindle speeds are high and the process is continuous. The use of the ring and the traveler subjects the yarn to some strain and also reduces the extensibility of the yarn to some degree, but this is not a serious factor. The bulk of yarn is spun on this system, since it allows the use of large packages and increased production per unit of floor space. Its range and flexibility make it the most satisfactory spinning unit of the present day.

SPINNING FRAME, THE RISE OF THE: As the textile industry began to take on impetus at the time of the Industrial Revolution, it was only natural as more raw material became available that machines would come into being to care for the increase. Raw material, manipulation, manufacturing, distribution and consumption had to be balanced.

In 1764, the first spinning jenny was made by James Hargreaves of Blackburn, England. This frame could manipulate eight spindles. The invention was accidental. His wife, Jenny, had left her spinning wheel in his path. He stumbled over it as he came into his house, and being a carpenter, decided to repair the broken frame. His efforts made it possible to make eight spindles work whereas the spinning wheel had been able to spin one thread at a time. Thus, an instance of increased production was assured.

His fifth jenny, made in 1766, operated an even hundred spindles, and this was a great boon to production of yarn. However, he was mobbed by the indignant spinners, who may or may not have envisioned the economic evils of mass production and uniform sizes, the factory system and big business.

In 1769, the roller spinning frame was invented by Arkwright. The frame was driven by water power and factories began to be built on the banks of streams for water power.

A decade later, in 1779, Samuel Crompton made the spinning mule an actuality. He took the ideas of Hargreaves, who had spun yarns by means of the carriage, and Arkwright, who did his spinning by means of drawing

rollers. By combining the ideas, Crompton made a machine that did its work by the use of the carriage and rollers. The machine was a hybrid, a cross between carriage drawing and roller drawing. For want of a better name he called it a spinning mule. The name has been in vogue ever since. He sold his invention for 106 pounds; it was worth a fortune, but he let it slip between his fingers. In 1812 he received 5,000 pounds from the British Government for his machine had given work to 70,000 spinners, 150,000 weavers, and there were five million spindles revolving in England.

The rise of the mule took place between the years 1765 and 1785. In the latter year James Watt, a young Scotsman, invented the steam engine, and made it possible to drive the newly invented machines by steam power. Thus, the slow, tedious hand and water power methods of manipulation were at an end. By 1790, all of Crompton's mules were driven by steam power.

Today, mule spinning frames have been improved upon to the extent that as many as 1,400 pieces of yarn may be spun at the one time on a single frame.

SPINNING OR SAXONY WHEEL: This wheel came into being in the 16th and 17th centuries. It combined the principles and functions of the spindle and distaff, and was operated by a foot treadle which allowed the spinner's hand to be free to manipulate the fibers. In time, the spinning wheel became a genuine household article. It is still used in many remote sections of the world today.

SPINNING ROOM OVERSEER: One who has complete charge of all operations in the spinning room, including spinning, warping and winding; is responsible for quality, production, safety, and the maintenance of equipment; supervises the training of new employes and follows up to see if they have been satisfactorily placed on jobs; a key man in every detail.

The overseer must understand all jobs within the spinning department; must be able to figure production, calculate percentages, and make speed calculations. He must be able to do production planning and scheduling, must be able to supervise people and to understand human nature.

The Section Man in the Spinning Department assists the overseer. His duties are similar to those of the overseer but limited to one section of the department.

SPINNING WHEEL, ERA OF THE: This was from the 14th to the 18th centuries. The wheel took the place of the rather crude spindle and distaff method. It is still used in many places throughout the world that have not accepted the modern yarn making methods. Much of the work done by the spinning wheel today is a hobby with people.

Sir Richard Arkwright developed his spinning frame from the principle of the spinning wheel. His invention is still to be seen in South Kensington Museum in London. This effort spelled the death knell for universal use of the spinning wheel at the close of the 18th century.

The principle of the spinning wheel is that it takes the cotton or wool, and passes it through an eye, which is in the axis of the spindle. Subsequently, the yarn is wound on the bobbin that rotates on the same axis, but at a different rate of speed.

The rotation of the spindle twists and strengthens the yarn, and the difference in the rate of speed of the revolutions between the spindle and bobbin results in the winding of the yarn about the latter.

SPLITS: Cloth woven with a center selvage so that it may be separated after coming from the loom; many pile cloths are woven with one or two splits.

SPONGING: A part-shrinkage, by dampening with a sponge, by rolling in moist muslin or by steaming given to woolen and worsted cloths by the clothing maker before cutting to insure against a contraction of the material in the garment. "London shrunk" is a cold water treatment, originating abroad, and is frequently applied and guaranteed by the cloth manufacturers themselves.

SPOOL: A short wooden or metal cylinder with flanged edges, drilled to receive a spindle upon which is wound yarn, thread or wire.

SPOOLING: Some yarns come from cops, bobbins or tubes, and in that form are commercial in nature. These yarns must be transferred to a more suitable form, dependent on the use to be made of the product. Spun yarn is placed in a rack or creel, and each thread is placed in an upright pin or spindle. It is then wound onto the new tubes or cops. Skewers are used sometimes to transfer from one device to another.

The number of spindles on a spooling frame will be from 40 to 200. The size of the yarn determines, in great measure, the number of spindles used on the spooler or jack frame.

The yarn is held under some tension in order to assure compact, even winding on the device that is to receive the yarn. Production will vary from one to ten spindles per day.

SPOTTING: English term for crabbing.

SPRING WOOL, FALL WOOL: In Texas and California the first shearing of sheep is done in the spring; the wool obtained is called Spring Wool. The second shearing is done in the fall of the year, hence the name, Fall Wool.

SRINAGAR RUGS: Knotted rugs made in Kashmir, India, of very fine wool.

STAINED WOOL: That which is discolored by paints, perspiration, dung, rain, sleet and human causes.

STAMATTE: All-wool colored cloth, made in Holland from yarn-dyed material.

STAMBOUL: A cheap woolen fabric which was made in large quantities in northern France for the Levant, where it was used for cloaks by the natives. It was a heavy cloth as 104 lb. of wool were used for every standard piece of 55½ yards.

STAPEL: An original Anglo Saxon form now spelled staple and means "fixed, not variable." It referred to certain cloths which were sold abroad by textile merchants during the Middle Ages. These merchants were granted "stapel rights," which meant that the goods had specific quantities of stability and character to warrant their sale for export.

STAPLE: From Anglo-Saxon meaning "fixed, not variable." This term is applied to cloths and apparel of conservative nature as to weave, color, construction and quality. Dress worsteds, diagonals in blues and blacks, meltons, kerseys, beavers, broadcloths, serges, cassimeres, etc., are classed as staples. They are always in demand as contrasted with fancy and novelty cloths that came to the fore in economic cycles. The cycle of style, fashion, design and vogue shows that some cloths come into their own about every seven or eleven years, chinchilla, for example.

Staple also implies the average length of a group of fibers, such as a 2-inch staple worsted top, a 1¼-inch staple cotton, etc.

STAR H. I. LOTS: English term for small batches of wool of three bales or less.

STARRED WOOL LOTS: In the London wool auction market, small lots up to and including three bales, are sold apart from the larger consignments. These lots are designated by a star symbol in the catalog which lists all items for sale.

STEAM SHRUNK: The opposite of London shrinking, it is sponging or shrinking by passing the cloth through perforated steam cylinders.

STOCK: A broad, general term used in mill parlance with reference to raw materials, fibers in process of manipulation and qualities or conditions of textiles in its various phases. The term is often applied to the following: raw or bulk fibers, lap, sliver, slubbing, roving, top, shoddy and other waste materials, mixes, mixtures, grades of fibers, staple, and so on.

STOCK DYEING: Dyeing of stock in the bulk. It is done after the particular stock has been well opened up and freed from foreign matter and clumpy or matted parts. Done before the final mixing of the grades and types of stock to be used in the particular mix. This type of dyeing is used for many mixtures, heathers, fancies, etc.

STOCKINETTE: A knitted, worsted, part worsted or cotton elastic fabric on the so-called Jersey order. A product of the "stocking frame" and usually made with a "fleeced wool" back. Used as a material for working, house and smoking jackets.

STORM SERGE: Heavier but lower in texture than ordinary serge, and cheaper in quality and price, this cloth is made from a 3-up and 3-down, right hand, 45-degree twill weave. Cloth is wiry, harsh, and lustrous; used in suiting and coating material. Colors are usually navy and dark shades with much fabric made in shades of gray.

STOP MOTION DEVICE: Any automatic device that will stop a textile machine when some irregularity in the running of the machine arises; examples are when a warp yarn breaks in weaving, when a filling pick breaks in the shed or when the bobbin has run out and become spent; when bobbins, cones, cheeses or spindles become filled on a machine, etc.

STOVING: A process of bleaching wool by sulphur dioxide fumes. In connection with silk, it is the killing of the chrysalis within the cocoon by means of dry heat and sulphur fumes at proper temperature.

STREPSIKEROS WOOL: Long, coarse wool obtained in Crete.

STRETCH: 1. The traverse length of the mule spinning carriage.

2. The length of the spun yarn on a mule frame between the spindles and the roller beam which is wound around the spindle each time the carriage is on its inward run to the head stock of the machine; also called draw.

STRIPPER ROLLERS: There are from four to seven of these rollers on the woolen or worsted card. These card-clothed rollers work in conjunction with a similar number of worker rollers and the cylinder, to card wool fibers.

The cylinder has excess speed over the workers and strippers; the strippers over the workers. The stripper roller is the smallest of the three rollers that do carding. Most carding machines are now vacuum-stripped.

STRONG: A wool fiber that is harsh, coarse, very irregular or uneven in diameter measurement.

STRONG WOOL: 1. The luster wools of Great Britain are sometimes known by this name.

2. Australian term for cross-bred sheep; also implies coarse, extra-length wool from any wool clip.

STUBBLE SHEARING: Caused when the shearer has not sheared close enough to the flesh of the animal: leaves a short growth or stubble of wool comparable with stubble beard of a man.

STUFFER THREADS: Extra yarn or thread that runs in the warp direction through the center of the material without showing on the face or back of the fabric. Stuffers do not actually weave with the filling threads and are used to give weight, thickness and bulkiness to the goods. They are much used in the carpet trade and in double, triple, and quadruple materials.

S-TWIST: A direction of twist in yarn or cord similar to the spiral part of the letter S. Formerly called "left" or "reverse" twist.

SUEDE FABRIC: 1. Woven or knitted cloth made from the major textile fibers and finished to resemble suede leather. Used for cleaning cloths, gloves, linings, sport coats, etc.

2. Some sheeting may be napped on the one side to simulate suede leather.

3. Duvetyne, when made of cotton, is similar to suede but has a longer nap; sometimes difficult to distinguish between the two.

SUEDE FINISH: Characteristic finish noted on some novelty woolen cloths and on warp-knit cotton cloths that are used for glove material. Emerizing brings about the finish which has a soft, kindly feel that is similar to the feel of chamois. This finish may be given to cotton moleskins and to some sheeting cloths with soft filling.

SUFFOLK: British Down breed of sheep derived from crossing Southdown rams with Norfolk ewes. The medium wool obtained sorts to ¼ blood or low ⅜ blood; fibers are of moderate length and the fleece weighs about 9 pounds. Shrinkage is about 40 per cent.

SUINT: Dried perspiration that is encrusted on the fibers of the sheep fleece. Suint is used in making potash.

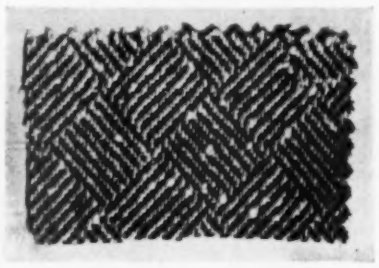
SUNDHORDLAND SHEEP: One of the oldest breeds of sheep in Europe, this Scandia type is a mountain climbing sheep known for its harsh, coarse fiber. The wool is used in bulky, rugged fabrics for cold weather service.

SUPER: Term applied to wool that runs better or above what would ordinarily be expected of it in working properties. The term has several rather intangible implications and should be used with care.

SUPERCOMBING: Long wool taken from the shoulder part of a fleece; this is the area where the best wool from a fleece is obtained, generally speaking. Also means first combing wool.

SURI: Alpaca of the superior type.

SWALEDALE: A British sheep breed raised in the mountains and fells of Cumberland, Durham, North Yorkshire, and Westmoreland. As a mutton producer the sheep is second to none; the wool is long and very coarse.



SWATCH: A sample of cloth. A swatch is taken from each warp in the weave-shed, after a few inches of the body of the cloth has been woven, following the starting-up of the loom by the "starter-up man." The swatches are sent to the designer for final checking and approval prior to permitting the weaver to weave out the cuts on the warp beam.

Swatches are also taken from blanket ranges that have been woven to show the new materials for the respective seasons.

In the trade, any small sample of material is often referred to by this name. Swatches are used for inspection, comparison, construction, color, finish and sales purposes.

SWEATING PROCESS: The sweating of hides until the wool is loosened so that it can be pulled out easily.

SWEATING SHEDS: Sheds where sheep are sweated prior to shearing. The animals are sent down an incline and submerged to the neck in the loosening liquor. Various solutions are used to raise and soften the yolk and suint in order to make shearing easier. Care must be exercised in sweating so as not to injure the hides of the sheep.

TABOURET: French woolen fabric used in the upholstery trade.

TACKING: Woolen and worsted cloths, with the face turned in, are seamed, sewed or basted prior to treatment in the various wet finishing operations such as fulling, milling, washing, scouring, etc. The purpose of this is to protect the material in these more or less rugged treatments and to prevent wrinkles.

TADLA: Moroccan sheep noted for its white fleece which weighs approximately from four to eight pounds. Has a three-inch staple length.

TAGLOCK: A matted, encrusted or tangled lock of wool or hair.

TAIL-END: The opposite of head-end, it is the tail-end or finishing-end of a cut, bolt or length of woolen or worsted cloth.

TAKE: A row of pile tufts in hand-made rugs.

TAKER-IN: Synonymous with licker-in, an auxiliary roller used on carding machines; aids in delivery of stock from the feeding-in end of the frame to the main cylinder on the frame.

TAMIS: A plain weave, open-mesh worsted cloth used for sieve and straining purposes.

TANNER'S WOOL: Synonymous with the lime process used to obtain pulled wool, that taken from dead sheep, from the pelt of the animal.

TAPE CONDENSER: Located at the delivery end of the last card in the set, its purpose is to divide the full-width web of fibers, as they leave the doffer roller, into a series of narrow strips. The number of strips range from 60 to 200 dependent on the type of condenser being used. The strips of webbing are condensed by an agitating motion and sets of endless aprons into a roving form. These rovings are then wound onto a jack spool with a range from 15 to 50 if a four bank condenser is used on the frame.

The rubbing apron action and the devices used for spool winding are very ingenious. Some cards serve a three bank condenser instead of the usual four bank type.

TAPESTRY BRUSSELS: A misnomer applied to tapestry carpeting since it, like Brussels carpet, has a looped pile effect.

TAPESTRY CARPET: Woven on a simple loom where the surface yarns are supplied from the rear of the loom as warp ends. They are lifted over round pile wires, which when withdrawn, leave uncut loops to form the face of the fabric.

The qualities may vary from the very lowest to a heavy hooked type that resembles the hand-hooked native New England carpets. Plain colors may also be used with a striking effect in this looped construction for both decorative value and very good wear.

The pattern is obtained by dyeing the desired shades on the outer warp strands of the yarn as designated by the warp direction of the designer's motif on design paper. When raised over the pile wire each warp end contributes the correct color in the required space.

TAPESTRY VELVET CARPET: A cut-pile effect is the feature of this warp-printed carpet.

TARTANELLA: Term for tartan plaids made from combinations of cotton, linen, rayon and/or wool fibers.

TASMANIAN WOOL: Very high grade merino wool from Tasmania. Compared with adjacent Australian merino it is a trifle shorter in staple but possesses excellent working properties and is used only in the best of fabrics.

TATTERSALL: A heavy, fancy woolen vesting of "loud" appearance. Also used for overcoating and some suiting, the name is taken from the famous mart for thoroughbred and racing stock in London. The cloth has some popularity at times and simulations of it may be observed at race tracks on the Continent and in this country. Checks, bold effects, and gaudy color combinations may be observed in the material.

TAUTER: Comparable with Oxford and Shropshire breeds of England, this Norwegian sheep breed is shorn bi-annually.

TEAR: Used to give the relation, in the worsted combing operation, between top versus noil in terms of percentage. The ratio is 10 to 1.

TEASELS: They are grown in Belgium, France, and other European countries and in Oregon and Washington in this country. Auburn, New York, is known as a teasel-raising center in the East. Teasels grow from one to two inches in length and about one inch in diameter. They are tough and have the appearance of a porcupine.

The teasels, as used in textile finishing of fabrics, are set snugly in grooves in the napping machine cylinder which comes in contact with the cloth and raises the loose fibers to form a nap. Because teasels wear down in about a week's time, every sixth row is usually replaced each morning. Since the teasels cover the entire surface of the napping roller, the cloth receives a rigid brushing so as to create the nap effect.

TEDDY BEAR CLOTH: A cheap wool and mohair pile cloth first used as a covering for teddy bears. The long nap is raised in finishing the cloth.

TEG, TEGGETT: The first clipping from yearling sheep which were not shorn in the lamb stage. Teg is the name for the shorter staple when compared with the term, hog, hoggett. See Hog, Hoggett, Wether.

TENDER, TENDER GOODS, TENDERING: Raw stock, top, yarn or fabric which has become weakened at some time during manipulation. The causes for tendering are many and may include scouring liquors which may have been too hot, over-scouring, over-carding, poor selection of raw materials, too much draft, poor tensions, faulty dyeing, excessive napping, gigging or singeing, construction defects, etc.

TENDER FLEECES: Applied to lower grades of fleeces which can be carded but not combed. Also known as Tender Wool, the fibers are used in low grade woolen yarns.

TENDER GOODS: The weakening of cloth by excessive napping, too strong a scouring liquid, by re-dyeing after stripping or not stripping too well, poor singeing, uneven tensions on one or more of the several finishing machines used to finish fabric, improper setting of gauges on the sheer, press or other machines.

TENNIS FLANNEL: Lightweight British fabric made on serge weave. This clear finish worsted comes in white, stripes in a white background or may be dyed cream or ecru shades. Popular in tennis and other sportswear.

TERRITORY WOOL: A term well known for its various meanings. Originally it meant wool raised west of the Mississippi-Missouri rivers — then known as Indian Territory. At present the term means wool raised west of the 100th meridian but exclusive of wool grown in California, Oregon and Texas; these three wools have special designations. Incidentally, other wools in this Territory Region are quoted individually.

Territory wool is chiefly of the fine type and it shows heavy shrinkage and low yield. Much of the wool is dull, dark and dirty in-the-grease but it scours to a good white. Other names for this wool include Western, Range, Modoc.

TEXEL SHEEP: Raised chiefly in Belgium and Holland, this sheep is the result of cross-breeding English Lincoln rams with the "long-legged" Guinea ewes. These sheep were brought to the American colonies and were important in developing the sheep raising industry in New England 150 years ago.

TEXTILES: Used to denote manipulation from the raw condition, through to the finished state, of any of the kingdoms of fibers employed by man for this purpose. It includes practically all of the materials used in the making of clothing, inner and outer, for the human race all over the world. Textiles also includes rugs, carpets, wall coverings, decorative fabrics. There are many uses of textiles in some form or other in many types of industry. Textiles include all materials from the very cheapest kinds of cloths, muslins, tobacco cloths, cheesecloths, to the very expensive damasks, brocades, brocatelles, Jacquard materials, and tapestries. The types, kinds and varieties of cloth make an almost endless chain from the lowest to the highest in quality, texture, finish, weight, price, width, sheerness, compactness, etc.

TEXTORES: A special or separate class of citizens in Greece who carded wool, wove cloth or dyed fabric — the forerunner of the modern word, textiles.

TEXTURE: Strictly speaking, it means the number of warp ends and filling picks per inch in any woven cloth. The popular meaning of the term refers to the particular type of finish applied to fabrics; this meaning is much used in advertising textiles. The following are some of the "texture terms" applied to materials — soft, harsh, wiry, rough, smooth, silken-like, satiny, porous, non-porous, fine, sheen, sheer, shaggy, napped, diaphanous, velvety, etc.

TEXTURE EFFECT: This is used with reference to pile fabrics in which a rug, carpet or other pile material has a rough, shaggy or relief effect. These effects may be secured by the type of yarn used, the manner of weaving or the design construction.

THIBET: Used in heavy suitings, it is piece dyed and given clear finish; runs from 12 to 30 ounces per yard in weight. Wool, worsted, and waste fibers are used in making the several qualities on the market. Broken weaves are employed in the construction and the filling is usually double — a face filling and a back filling. A soft and smooth plain-finished face, woolen or part woolen, features much fabric of this name. Genuine Thibets are made from the fleece of the mountain sheep of Thibet, a secluded region of Asia.

THICK STRIPES: Those which are too thick and tend to throw off the general appearance of the fabric. Caused by uneven yarn, improper drawing-in or reeding, and incorrect yarn sizes.

THICKNESS: General term used with regard to the actual thickness of blankets, coatings, pile cloths, industrial fabrics, and webbing. The height of pile cloths is also often referred to as thickness.

THIN PLACE IN FABRIC: This is a strip of goods without filling which may run from a fraction to over an inch in width. A thin place may be caused by a loose crank arm allowing the loom to cast out the bobbins, a splinter or a nick on a shuttle breaking the filling yarn, bobbin tails not being unwrapped, tail slips as a new bobbin is picked, clogging of the filling grate. Thin places can be reduced by checking the shuttles, harnesses, etc.

THIN STRIPES: Linked with thick stripes, they are caused by poor handling of the design, faulty weaving, incorrect drawing-in or reeding.

THIRD COMBING: Wool taken from the lower part of the back of the fleece.

THORP, JOHN: In 1828, invented the ring spinning frame, the rival of the mule frame. This upright machine spins continuously, whereas mule spinning is intermittent. Compared with the mule, the ring frame requires less skilled help, gives about one-third more production, takes up less floor space, can give higher twist to the yarn, gives a somewhat harsher yarn and is very popular for the manufacture of warp yarn.

THREAD: A highly-twisted, specialized type of yarn with some particular finish so that it may be utilized for some definite purpose. Thread is stronger than yarn, is usually of two or more ply, and has proper twist to aid the operator or worker in manipulation with the needle, on hand or power machines. Thread, of course, has much usage by the finger manipulation of the individual. It is used for sewing, darning, mending, buttonhole making, embroidery work of many types, etc.

Threads vary as to quality, ply, twist, finish, sheen, luster, strength, etc.

THREAD COUNT: 1. The actual number of warp ends and filling picks per inch in a woven cloth. Texture is another name for this term.

2. In knitted fabric, thread count implies the number of wales or ribs, and the courses per inch.

THREADY CLOTH: Fabric finished so that it will show every thread clearly on the face of the goods. Examples include cassimere, serge, diagonal worsteds, chain-break cassimeres, etc.

THREE-EIGHTS BLOOD WOOL: A classification used in the Blood numerical value is about 56s; below one-half blood wool and above one-quarter blood wool in the Blood System of Grading used in some parts of this country.

THREE-QUARTER BLOOD WOOL: A classification used in the Blood System of Grading Wool; comparable with ¾ Merino stock and rated just below XX wool and above one-half blood wool.

THREE-QUARTER CARPET: Fabric woven 27" in width or three-quarters of the standard yard. This was a standard of measurement known as an "ell" when looms were first invented and remained the limit of width for many decades.

THROSTLE: A machine formerly used exclusively in England for the spinning of warp yarn; it has been outmoded for over one hundred years. Spinning frames of various types have been developed from the basic principles embodied in the throstle.

THROUGH-AND-THROUGH: Formerly meant woolen cloths which had both sides the same in appearance; now implies a double-faced cloth either printed, woven, or napped.

TICK-TACK EFFECTS: Birds-eye effects seen in worsted suiting; one or two ends working as one of a light-colored yarn to three or four ends

of a dark color in the warp give the tack effect. The cloth is usually made on a small twill weave.

TIGHT PICKS: Those picks in cloth which are irregular because of unevenness, faulty twist, poor pliability, etc. These picks, for some reason or other, give a binding effect or tautness to the edges of the material resulting in wavy, cockled or ruffled fabric.

TIGHT SELVAGES: Those which have the tendency to pucker because of missing or broken selvage ends, poor tieing-in of listing threads, uneven tension weight on the warp beam which affects the edges of the warp, etc.

TIMADIT: This Moroccan breed of sheep is noted for its black head and black fleece on neck and shoulders.

TIP, TIPPED WOOL: The tip-ends of wool fibers in a fleece are clustered or matted together into a tip formation caused by permeation of the yolk throughout the fleece; gives the fleece its characteristic appearance.

TIPPY WOOLS: Those in which the wether end of the fleece are more or less encrusted and matted.

TO DOUBLE: Process of doubling or twisting two or more yarns into an individual ply yarn. Done on the twisting frame in the mill. The yarn is usually twisted in the opposite direction from the single yarns that were used to make the ply yarns.

TOD: A twenty-eight pound lot of wool which is used as a unit in weighing wool and top in England.

TOP: Found in worsted stock in all-worsted or worsted-mixes. Top is made up of fibers taken in the combing operation. It comes in slubbing or sliver form that is wound into a ball effect a foot or more in thickness and two or three feet in diameter. It resembles a cheese in appearance. The fibers in a top are parallel and of the same length. They are smooth, uniform, even, and have no foreign matter to speak of. The short fibers taken from the combing operation are called noil. These are used as a substitute fiber and may be high or low in quality. Tops are sold on the Worsted Top Exchange in New York City. Quotations are in cents and tenths of a cent per pound, and a top contract is 5,000 pounds.

TOP COLORS: Colors of the yarn used to form the design as distinguished from the ground color.

TOP COMB: The Heilmann or French comber is equipped with a device for combing that section of fibers held in place by the nippers while the half lap is in play. The device is a thin metal bar upon which is soldered a row of very fine, closely-set needles. The fibers are drawn through the combing needles by the detaching rolls. Fibers are short as 1½-inches in staple may be combed on this machine.

TOP DYED: Wool fibers dyed in the form of worsted top and then processed in the colored condition.

TOP FINISHING: A term used in English or Bradford worsted combing. It refers to the processes used to obtain suitable top and usually, anent gilling, implies two gilling operations, one by the conditioner, the other by the top gill box.

TOP GILL BOX. The last process in making commercial top, it is the box which forms the fibers into top form as it comes from the delivery end of the machine and winds it into the ball form known as finished top.

TOP KNOT: Wool taken from the forehead and poll of the sheep when it is being sheared.

TOP MAKER: A dealer who buys wool for sorting and classification, mixing and blending, and manipulation into the finished unit in buying worsted sliver, the top. The topmaker, if he does not own a plant for the making of tops, has the work done by the commission comber.

TOPMAKERS' QUALITY OR COUNTS: These are numbers used in speaking of the quality of certain foreign wools. The system is used in the British Empire and on the Continent. A number 60s would mean that the wool is capable of spinning to a 60s worsted yarn. From this, it is to be understood that there would be 60 hanks, each 560 yards long, in one pound of the finished yarn. The yardage per pound would be figured, as follows: 60 x 560, the number of yards in one pound of a Number-One worsted yarn, or 33,600 yards of yarn.

TOPPINGS: Burrs, clay, dirt, dung, fodder, etc., found on various edges of the fleece when it is being skirted by the sorter.

TORN SELVAGES: Those which are not presentable because of ends missing, uneven tieing-in, knots and slubs, and general poor work on the part of the weaver.

TREBLE, TRIPLE CLOTH: Made with three sets each of warp and filling. This arrangement is used in making heavy fabrics, chiefly for industrial purposes; pile fabrics, however, are often constructed in this manner. Examples include conveyor belting, brake lining, woven belting, cotton harness fabric, some chinchilla and special finish coating fabrics.

TRENCH COAT: Covert, gabardine, whipcord, elastique and similar fabrics may be used to make this loose, roomy, all-over type of coating made popular during World War One. Features of the garment include a deep collar, wide belt and loops, large pockets, and double-breasted cut. The coat reaches to the knees. Also made from cotton fabrics as well.

TRESQUILLE: A type of greasy, sleazy wool found in the Marseilles area.

TRICOT: High grade, woolen or worsted cloth used in ladies' wear. The term in French means "knitting." The woven cloth usually repeats on four or eight picks and there are horizontal rib lines in the finished fabric. Cloth is made from a double cloth weave on the principle of the double plain weave. Tailors very well and is conventional.

Rayon tricot is a knitted cloth that is popular for dressgoods and underwear.

TRICOTINE: Of the family of whipcords, coverts and gabardines. Made from a 63-degree twill that gives the characteristic double twill line on the face of the cloth. A good weave to use in making the material is $\frac{3\ 3\ 1\ 1}{1\ 1\ 2\ 1}$. Other weaves of similar nature may be used as well. This thirteen harness fabric is dyed in all staple colors. The cloth drapes well, is easy to tailor and is a smart conventional fabric. A staple cloth. Skein-dyed tricotine is on the market. Cloth is usually of medium and best quality, and is used in men's wear and women's wear.

TROPICAL: Fancy suiting material of plain and rather open weaves. It is a lightweight worsted of the semi-staple group. Fabric is ideal for summer and tropical wear, and somewhat resembles Palm Beach cloth. Weight goes from 6 to 12 ounces per yard. Warp and filling are of high counts, usually 2/60's or better. Material is skein or piece-dyed, and clear finish is given. Tropical mixtures and heathers are popular cloths in the tropical range and these cloths are stock-dyed to give the desired pattern effect.

TROPICAL WEIGHT: Worsted suiting whose weight per yard ranges from eight-to-eleven-ounces, and largely used in warm climates and during the warm season.

TROUSERING: Use is obvious. The material is woven firmer and tighter than suiting cloth. It is also heavier in weight. Stripings are the main feature of the fabric. Used for dress occasions and in ordinary every day wear. Made from combinations of basic weaves. The garment has a dark or black background to better enhance the striping effect. The cloth is often of double construction in warp and filling or may be made of two warps and one filling.

TRUXILLO WOOL: An inferior, low-grade, Spanish wool.

TSIGAY: One of the oldest Russian breeds of sheep, this native type is raised chiefly in the Rostov and Stalingrad areas. Staple is about four-inches; ram fleeces weigh around 8 pounds.

TUBWASHED: Wool which has been washed after shearing. Formerly, it meant wool washed prior to this operation and was universally done throughout the world before the factory system came into being. Actual tubwashing of wool is still done in some of the outlying districts of our Southern states where the stock is used in home consumption and for hand woven fabrics which find their way to the exclusive shops in large cities.

TUFT: 1. A group of several hundred wool fibers from a well conditioned sheep will form a tuft of wool fibers; several tufts in a fleece unite into a large one known as a staple.

2. Fancy, nub or other yarns used for fancy effects in homespuns, tweeds, cheviots and other suiting and coating fabrics of the rather coarse, heavy type.

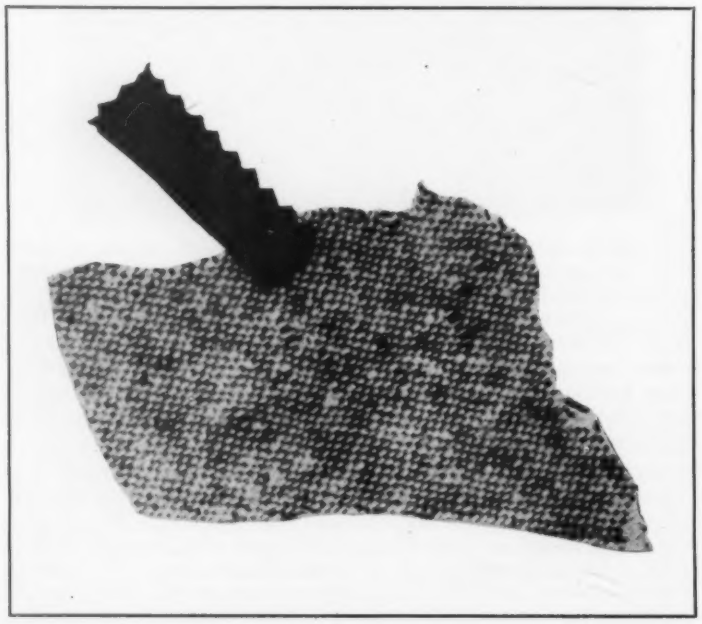
TUNIS: Native to Tunis and adjacent countries in North Africa this sheep is characterized by its heavy, flopping ears. The staple is of medium variety while the wool has traces of brown in the usual white fleece. Tunis is used here for breeding purposes in raising of "early lambs."

TURFANI: Thibetan wool of good quality used in the manufacture of expensive rugs.

TURKISH RUGS: These are always in demand and are expensive. They have coarse yarns and larger and heavier piles than other rugs of similar type and construction. The range of design is vast. Some outstanding types include: Bakaran, Bokhara, Anatolian, Cabristan, Chichli, Daghestan, Ghiordes, Guendje, Korna, Kazak, Melik, Moussul, Zadak.

TURKISH YARN: Name sometimes given to mohair yarn.

TWEED: Similar to homespun, cheviot, and shetland in many respects. Strictly speaking, the only real difference should be in the weave. Homespun should be made on a plain weave, tweed on a twill construction. The name comes from the Tweed River, which separates England from Scotland. This had been contracted into tweel, and then to twill, so that tweed and twill are now rather synonymous in mill circles. Tweeds are always in demand, since they are very popular in suiting, topcoating, overcoating, sport coats, golf toggery, etc.



TWEED, TYPES OF:

CHEVIOT TWEED: Differs from other tweeds in that warp and filling are stock-dyed the same color. Wide range of colors are noted and quality varies much. Popular cloth.

DONEGAL TWEED: Same stock as in the Irish Tweed, but the weave used is herringbone. Irish tweed is made of a two-up and two-down twill.

HARRIS TWEED: Under the terms of the British Board of Trade and the Federal Trade Commission, Harris Tweed refers only to woolen fabric hand woven on the Islands of the Outer Hebrides off the Northern coast of Scotland. This includes among others the Islands of Harris and Lewis.

It has been ruled on several occasions by the Federal Trade Commission to be unfair trade practice to use the term Harris Tweed to describe fabrics not in accordance with the definition referred to. This eliminates the question of imitations inasmuch as there is only one Harris Tweed.

This outstanding fabric is always hand woven. There are two types of Harris Tweed:

1. Fabric woven from hand spun yarn.
2. Fabric woven from machine spun yarn.

Comparatively few of the Tweeds are now woven from hand spun yarn because to spin such yarn for a length of fabric sixty yards or more much time and labor is consumed. Today only in very rare circumstances will the Crofters in the Islands take the time to spin enough yarn by hand for weaving into the piece.

There are some Harris Tweeds made from machine spun yarn and hand spun filling. Harris Tweed made from hand spun yarn is stamped to that effect in addition to the Harris Tweed Trade Mark. Harris Tweed is the registered Trade Mark of the Harris Tweed Association of London, which is a non-trading body set up under charter for the British Board of Trade to protect the article and to increase the appreciation of Harris Tweed throughout the world.

This activity is completely separate from the selling of Harris Tweed, which is taken care of by the producers in the Islands, several of whom have representatives in this country.

The fabric is used in suiting, topcoating, overcoating, sports wear, ensembles, etc. The Harris Tweed Association, Ltd., is represented in this country by M. Stanley Brown, 110 East 42nd St., New York City.

IRISH TWEED: Made of white warp with filling of dark shades of gray, blue, brown and black.

SCOTCH TWEED: Cloth with a white warp and stock-dyed filling, or vice versa. The colors used are often vivid and much contrast is noted in the garment. This tweed often has shoddy, mungo, extract wool, etc. used in its construction. Yarn is very irregular and the fibers are of all lengths.

TWILL: The name is supposed to have originated from the Tweed River which separates Scotland from England. The term means to double and in this respect tweed was originally made by what is known as "doubling the plain weave" which was written as 1-up and 1-down. Tweed or twill weave is written as 2-up and 2-down or $\frac{2}{2}$, provided this is the weave to be used in the twill construction.

The twill effect is bias or diagonal on the face of the goods. In about eighty-percent of twill fabric, the twill line runs from the lower left-hand corner of the goods to the upper right-hand corner of the material. Left-hand twill runs from the upper left-hand corner of the fabric to the lower right-hand corner of the goods.

The terms twill, tweel and tweed are closely related. There are many varieties of twill weaves and twill-woven fabrics — right-hand, left-hand, broken, herringbone, twilled basket, steep twill, reclining twill, even and uneven, single and double, braided, entwining, etc.

Some right-hand twill fabrics include cassimere, cavalry twill, covert, elastique, gabardine, serge, tricotine, tweed, whipcord, etc. Left-hand materials may include denim, gabardine, galatea, jean cloth, drill, middy twill, novelty effects, ticking, etc.

Twills are used to great degree in textile fabrics which are strong, durable, dressy and wash well. Much used in dressgoods of many types.

TWILL OR SERGE WEAVE: A weave which repeats on three threads each way. This is the smallest twill that can be made — a two-up and one-down or a one-up and two-down weave.

The two-up and two-down twill construction is very popular in all major fiber fabrics, even more so than the smallest-weave construction. The number of possible twill formations is almost limitless. Twills are used in silk serge, foulard, crepe meteor, plaids, checks, serge, tweed, cheviot, shetland, and in combination with other weaves that are used in more or less elaborately designed fabrics.

TWISTS: Woolens or worsteds of which the yarns are of two colors, doubled or twisted together. This gives an effect that is rather mottled in the pattern appearance. In the trade, many cloths are spoken of as "twists."

TWIT, TWITTY YARN: Woolen yarn may become twitty because of uneven spinning; it is caused by the applied twist becoming excessive in the weakened or thin areas in the yarn thereby causing it to recede upon itself.

TWO-TONE: A design using two shades of the same color.

UDA: A curly-coated British West Africa sheep whose fleece is black in the forepart and white in the hind-part. The fleece is characterized by its mass of curls.

ULSTER: Heavy overcoating cloth, loosely woven with warp of right hand twist yarn, and filling of left hand twist yarn.

All types and kinds of fibers are used in the material dependent on the quality of the cloth wanted. May be piece-dyed, or stock-dyed for mixed effects. The long nap given the cloth in finishing is pressed down. Material is good for cold, stormy, winter weather. Fabric weight is from 24 to 30 ounces.

UNCUT VELVET: Velvet cloth that does not have the pile construction cut by the blades in weaving.

UNDERCOLLAR CLOTH: The fabric used for the underside of collars; flannel or melton is often used for woolen and worsted garments; a cheap grade of cotton print cloth for cotton garments.

UNDRESSED FINISH: Woolen or worsted cloths which have received a finish that shows about twice as much finished nap as semi-finished fabrics. Undressed-finish fabrics will only show the weave in some places since the nap tends to cover up most of the surface. Worsted serge and cassimere are often given the finish to reduce the tendency to shine which is bound to appear with wear. Clear and semi-finish cloths will show shininess much quicker on serge and cassimere when compared with undressed goods.

A cheviot differs from an undressed finish fabric in that the former is made of coarser wool which will give a shaggier appearance to the fabric. Cheviot has lower texture, less yarn-twist, and is heavier in weight per yard. Both fabrics have uneven nap on the face and fail to hold the crease.

UNEVEN CLOTH: Fabric which has faulty surface effect caused by uneven places, such as light texture, heavy texture, shaded effects, slippage of a section in the warp on the warp beam, etc. Irregular tension weight on the warp beam tends to produce cloth that is not even and all that it should be as to final appearance.

UNEVEN SPUN, OVERSPUN: Uneven yarn caused by slack spindle bands or worn roller coverings on the spinning frame. The yarn may have excessive twist in thin places, thereby causing it to become recessive, kinky or curled. Modern spinning frames, tape-drive, are now equipped with compensating weights to allow for expansion or contraction of the bands.

UNFINISHED WORSTED: Worsted with a light nap which somewhat obscures the weave. The term is a misrepresentation because this nap is a finish on worsteds, which are ordinarily left with a smooth surface after they are woven.

UNIFORM CLOTH: A family of serviceable woolen cloths on the general order of kerseys and flannels as the most important. Colors are blue, gray, khaki, brown and mixed effects. The cloth is used as uniform material for military, naval, police, fire, postal, railway, bus, public service, chauffeurs, regal livery and other public and private groups. As most of these cloths are furnished under certain approved and decreed specifications, according to contract, a very exact demand is made on the goods to meet requirements.

UNION CARPET: It is made with a binder filling which enables the material to be used as a reversible with a pile on both sides of the fabric.

UNION CASSIMERE: A low-priced suiting fabric made of cotton warp and wool or worsted filling; has considerable luster and is clear-finished.

UNION CLOTH: 1. English material of cotton warp and reused, remanufactured or shoddy-type filling. The cloth is given much napping to improve its looks. Used in overcoating trade.

2. Woolens and worsteds which have textile fibers from other fiber kingdoms in them, e.g., a fabric with a cotton warp and a worsted filling is classed as a union.

3. Name for some fabrics in which man-made fibers are used in the content, in varying percentages. The union method of dyeing is resorted to in coloring the materials. Union cloths are used in dressgoods, general decorative fabrics, towelings, sportswear, etc.

UNION YARN: Made of cotton and wool. The fibers are combined in the blending and mixing operations. Other combinations of stock are sometimes referred to by this name.

UNTRUE WOOL: Wool fibers of uneven diameter which do not measure up to the ordinary standard.

URDIGA. Fine, short staple, silken-like wool raised in Morocco.

URIAL: Native to northern India, this wild sheep is reddish brown with a white neck and a dark beard from the chin to the chest. Fiber is used in apparel and carpets.

URUGUAY WOOL: Next to Argentina from the standpoint of wool production, the fiber raised there is chiefly of the crossbred type but there are goodly amounts of merino and carpet wools produced as well. Montevideo is the clearing house for Uruguayan wool and the name of this city is often given to the wool raised in that country. The United States is a very good customer in wool from Uruguay.

VAN WOOL: Merino wool from Tasmania.

VARIEGATED WOOL: 1. Inferior wool which shows irregular coloring in the staple.

2. Implies the mixing of discolored lots of wool.

VELOUR: From the Latin, "vellosus," meaning hairy. Cloth is used as coating material, and in velour check form, is used for dressgoods and coating cloth. The material is a thick bodied close-napped, soft type of cloth. The name is used rather indiscriminately and is applied to suiting fabric as well. Generally speaking, a velour is a cloth that runs from 10 to 20 ounces per yard, and given a face finish. Various types of yarn are used in making the several types of velour on the market. Twills or broken constructions are used in laying out the pattern. There are several fabrics of the same construction, but of slightly different finish, to be found in the trade — suedyne, suedette, lustora, duvedelaine, valora, etc. The cloth is made in the finishing and much of the best grade velour is really beautiful cloth.

Some velour is now made with spun rayon and wool blends. Used for drapery fabric, women's coats, upholstery.

VELVET CARPET: Resembles tapestry carpet to some degree. It has a cut pile and gives a solid appearance and foundation. Velvets have more luster than tapestries. Nap on these carpets comes off easily.

VELVET-FIGURED: A cut pile fabric woven with woolen or worsted yarn upon which all of the patterned colors have been drum dyed before placing in loom. Pile is formed by use of wires.

VELVET-PLAIN: A cut pile fabric woven with woolen or worsted surface yarn wound on beams. It can be either raw stock dyed or skein dyed. The pile is formed by use of wires.

VENETIAN: 1. A five-end satin weave, face-effect, is used to make this fabric made entirely of worsted yarn; used in suiting and coating. A similar type of cloth and made of the same construction uses two-ply worsted yarn and single-ply woolen filling. Both types of fabric receive clear finish.

2. A woolen cloth made throughout of single-ply woolen yarn. This cloth receives much milling in finishing. Used in suiting.

3. Venetian in the cotton trade is made of an 8-end satin weave, face-effect and may be classed as a heavy sateen. Used for lining, the fabric is made usually of combed cotton yarn and mercerizing or schreinerizing are given so that the cloth may have a lustrous finish.

4. A fine worsted fabric made in a small repeat twill weave, medium in weight, piece dyed and given a splendid luster finish; used in expensive suiting. The name Venetian is taken from the resemblance the fabrics of this name have to silk. The origin of Venetian is the city of Venice, Italy.

VERMONT: About 150 years ago choice merino sheep were sent from Vermont to Australia to help found the merino sheep flocks which are now world famous for their high quality fiber. The term is still used in referring to sheep descended from the original flock of rams and ewes.

VESTING: A term which covers a large variety of fabrics used for fancy vests and dresses. It includes principally piques and Bedford cords, and various types of similar constructions. Vestings are usually medium or heavyweight cloths which present a series of heavy welts or figures evenly distributed over the surface. Vesting's largest use now is for skirting and suiting fabric. Lighter grades are also used for skirting, blouse material, stocks and neckwear. The heavy grades are used for quilting, uniform fabric, and riding breeches.

The typical pique vesting presents a surface of lateral welts. The width of the welts varies from one-twentieth to one-fourth of an inch. Bedford cord vesting has the same appearance except that the welts are longitudinal. Some vestings have figured effects raised on the surface of the cloth. Combinations of the pique and Bedford cord weaves produce fancy patterns. Domestic mills generally make only the staple and simple novelty patterns because variations are expensive to produce.

A man's vest is made in many different styles — single breasted, double breasted, lapel at the opening, no lapel at the opening, diamond-shaped front effect, short pointed effect, long points, straight bottom, etc.

VICANERE: A coarse Indian wool, yellowish in cast, used in making blankets and carpets.

VICUNA: The animal is found at elevations approximating 12,000 feet in the almost inaccessible regions of the high plateau area in Peru, northern Bolivia, and southern Ecuador. Vicuna, which live above the clouds, are about three feet high and weigh from 75 pounds to 100 pounds. The animal has a life span of about 12 years.

The fiber varies from golden-chestnut to deep rich fawn shades to a pallid white beneath the body and on the surface of the extremities with light markings on the face and jaws.

Vicuna fibers, which are strong and resilient, have a marked degree of elasticity and surface cohesion. These fibers are the finest of all known animal fibers, being less than one two-thousandth of an inch in diameter, with a count of about 2500 to the inch which is less than one-half the diameter of the finest sheep's wool. The respective diameters of the two fibers are vicuna, .00043; fine sheep wool, .00080 inches.

The outer beard hair of the animal serves as a coat and is not used in making good quality fabrics. The inner hair, which grows close to the skin on the neck, under shoulders, and on the sides and under-portions of the body, is very soft and silken-like.

Vicuna, the aristocrat of fibers, may be used to best advantage in the natural state; however, proper dyeing does not destroy the original beauty of the fiber itself. However, if dyed, it is necessary because of the tendency of the fibers to resist absorption of dyes to remove at least fifty percent of the natural grease and oil.

Forty fleeces are required to make enough fabric for a single coat.

VICUNA-PACO: Issue of vicuna sire and alpaca dam.

VICUNA WOOL: Fibers from the vicuna fleece. See Vicuna.

VIGOGNE: French for vicuna. A cotton fabric made to resemble the woolen cloth of this name. The cloth is given what is known as an oil-spinning process. Ninety-percent of cotton and ten-percent of wool usually make up the content of this fabric which is used as dress material.

Another meaning of the term implies cotton yarn which has small amounts of wool or wool waste in it.

VIGOGNE YARN: 1. Hosiery yarn used in Europe, and composed of about 20-percent cotton and about 80-percent wool.

2. A European yarn made of cotton and cotton wastes, and finished to resemble woolen yarn; used for underwear fabric.

VIGOREUX PRINTING: The printing of worsted top fibers by passing the sliver through a printing machine which has a roll with raised bars to carry the dyestuff. The sliver is impregnated with the dyestuff when it comes in contact with the revolving bars or rollers. Black is used chiefly in Vigoreux work but shades of blue, brown and green may be printed by this method for coloring what will be finished spun yarn when manipulation is completed.

VIRGIN WOOL: The Federal Trade Commission considers this term synonymous with New Wool. It states that "the term virgin or new wool as descriptive of a wool product or any fiber or part thereof shall not be used when the product or part so described is not composed wholly of new or virgin wool which has never been used, or re-claimed, reworked, reprocessed or reused from any spun, woven, knitted, felted, or manufactured or used product. Products composed of or made from fiber reworked or reclaimed from yarn or clips shall not be described as virgin or new wool, or by terms of similar import, regardless of whether such yarns or clips are new or used or were made of new or reprocessed or reused material."

Another meaning of the term is that it is the first clipping from a sheep that has never heretofore been sheared, a shearling or yearling sheep. The first clip from the animal will be the best to be obtained, as each successive clip becomes inferior in quality; the older the sheep, the poorer will be the grade of the fiber.

Another concise and brief meaning of the term is that it is wool, irrespective of the clip, that has not been manipulated into yarn and cloth.

In some respects, the term is a misnomer. Care must be used to give the correct impression as to just what is meant in speaking of virgin wool. Incidentally, some grades of virgin wool cost less per pound than certain grades of cotton. Advertising has done much to add to the confusion in interpreting the correct or implied meaning. The term, all-wool is another misnomer in the trade, and to the buying public means practically nothing at all. The same applies to the term 100-percent wool. When it is considered that wool from the shanks, rump, and belly of the animals are used in the manufacture of woolen goods, it can be gleaned that while the resultant garment may be advertised as all-wool or 100-percent wool, the quality is just not there despite the fact that the cloth may be made entirely of virgin wool.

VIYELLA FLANNEL: Twill weave cloth with the appearance of all-wool flannel, but composed of about 50% cotton, 50% wool. The fiber content must always be declared in connection with this fabric. Also, the Wool Products Labelling Act requires that fiber content be declared when wool is present. The name is a trademark of William Hollins & Company for a fabric made in England.

VOLO WOOL: Greece raises this wool, long and coarse in nature, for use in worsted materials.

WADDING: 1. Fabric made of wool fibers felted into a compact mass through the application of heat, moisture, and pressure without weaving. Used in laundry presses, padding machines, tailoring and upholstery.

2. An extra set of filling threads which lie dormant, without interlacing, between the face and the back fabrics of a double cloth construction. The yarn is usually heavy and bulky, with little twist, to add weight and bulk to the material.

WALLACHIAN: Sheep native to southeastern Europe and comparable with Zackel. See Zackel.

WARP: 1. The yarns that run lengthwise in a woven fabric. Also called chain or twist. An individual thread of warp is termed an end.

2. The yarns that run generally lengthwise in a warp knit fabric.

3. The sheet of yarns laid together in parallel order on a beam to form a warp.

WARP BEAM, WARP ROLLER: A large wooden beam onto which the warp ends are snugly wound. This is followed by drawing-in and reeding before setting the beam into the sockets located at the back of the loom.

By means of friction bands and weights the warp yarn is fed evenly into the loom while the cloth is being woven. These weights are removed from time to time in order to keep proper tension on the warp ends as the warp decreases in diameter and the winding-off requires less tension in the control of the warp. Too much weight would cause some ends to break and thus impede production.

WARPER: A machine equipped to hold a beam in position on a constant surface speed drum to receive the ends of the yarn from the warping creel. The speed can vary from sixty to five hundred fifty yards per minute. There are clocks to show the number of yarns per minute, and in conjunction or separately, another device to show the actual total yardage. An expansion comb spreads the yarn evenly between beam heads. Some machines have built-in-stop-motions, others are controlled by a creel stop-motion.

WASHED WOOL: 1. Wool with the yolk and suint removed in the scouring operation.

2. The removal of as much suint as possible prior to shearing.

WASHER WRINKLES: Defects noted in woolens and worsteds that run in the warp direction. They show shaded or specked places and occur when the material is given wet finishing treatment, as in washing, scouring, fulling, milling. Very difficult to remove altogether. The fabric may be washed or scoured in a full-width open scouring machine, which generally does much to remove the wrinkles.

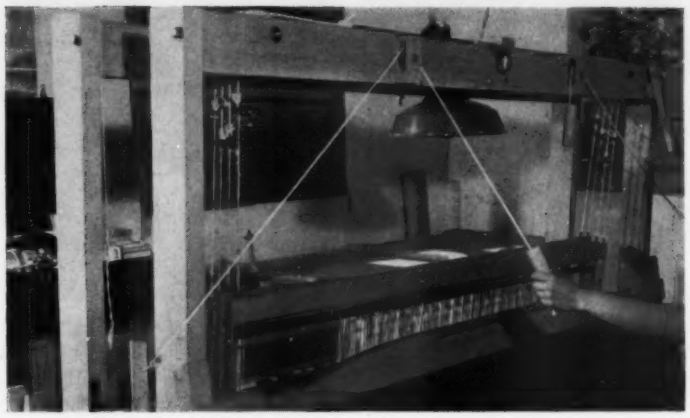
WATT, JAMES: This noted Scotsman applied steam to drive textile machinery. He took out his patent in the same year as Arkwright for the spinning frame, 1769. In 1785, Watt applied his power by steam in Robinson's cotton mill in Nottinghamshire, England. In 1790, Arkwright was using steam in his mill. By 1800, steam was generally used in textile mills.

WAULKING: Originally it was the treading on cloth by women who were barefoot. The treatment was carried on in a large wooden tub. The original term probably comes from the same Saxon root as "walk." The treatment by treading caused the cloth to become "full," from which comes the present day treatment in wet finishing, called "fulling."

The term also implies the final finishing operation accorded some homespuns and tweeds in the British Isles. It means about the same as felting of woven fabric in this country; this is the shrinking-in of fabric to the proper width in order to make it more compact and firm.

WEASEL: About 175 species are in existence. They have a long cylindrical body and walk on their toes, not on the soles of their feet. Some species are well known, the mink and the ermine for example are ferocious and bloodthirsty animals. Larger than these two and of stouter build is the Wolverine, which is found in Europe, Asia and America. Other members with valuable fur are the Marten and the Sable. Still another group includes the Badger. The fur industry uses nearly all the species of the Weasel family in making coats, trimmings, capes, etc. The textile industry uses large amounts of their fine fibers, but only those with names that will add to the dignity and glamour of the fabrics. The accent is on luxury. The price for the fiber blends is based on the blend and the color. It varies from $3 to $6.

WEAVING: The interlacing at right angles of two systems of threads known as warp and filling. The former runs lengthwise and may go over or under the latter, which runs crosswise in the cloth.



In designing woven fabrics, the manner of interlacing may be varied to produce different effects. These effects are called weaves and may be represented on special squared designing paper by allowing the vertical lines to represent the warp and the horizontal lines to represent the filling threads. The actual weave is an arrangement of painted and unpainted blocks. The painted block is called a raiser or up-thread, and indicates that the warp thread is above the filling at the point of interlacing. The unpainted block is called a sinker or down-thread and indicates that the warp thread is beneath the filling thread.

WEAVING OVER, WEAVING UNDER: These two blemishes are caused by an irregular timing of the box motion on the loom and are readily seen in plaids, checks, overplaids, multi-colored warp and filling cloths. The result of these flaws is that the cloth is given a distorted appearance which does not appeal to the eye.

WEAVING SLACK: Caused by uneven tension weight on the warp beam. A sleazy appearance is noted in the material when this blemish occurs. Weavers should check constantly to prevent slack weaving since it is one of the most difficult faults to remove.

WEFT: Allied with the British term, woof. In this country there is much discussion of these two terms and they seem to be considered as more or less interchangeable. Both of them here may mean threads that run in the filling direction. One may imply a warp series of ends, while the other would specify the opposite system of yarns or threads. The terms are often resorted to in the advertising of textiles since they seem to give an English "quirk" which may attract the reader's attention. Other names for weft are pick and "pick-and-shot." In the carpet trade in this country the term weft is used instead of filling in most instances and is accepted in lieu of the American term. See Woof.

WEFT YARN: In the carpet trade cotton, jute or kraftcord yarn running crosswise of the fabric as binding and filling. It is inserted through the chain and over and under stuffer warp yarns with a shuttle in the wire weaves and with a needle thrust in axminster.

WELSH FLANNEL: Originally a hand-woven, variable texture, lightweight flannel of good quality made from wool of the well-known Welsh Mountain sheep. Some fabric of this name appears from time to time. It is made from woolen or cotton warp.

WELSH MARGETSON: A very fine wool tweed which weighs only 3½ ounces per yard; printed in classic designs for use in cravats.

WELSH MOUNTAIN SHEEP: Raised in the mountainous area in Wales, this active breed gives a coarse wool of about 32s and a fiber of about six inch staple. Since the breed tends to shed its wool before warm weather sets in it is necessary to shear the two-pound fleece as soon as weather conditions permit.

WEST OF ENGLAND: Renowned throughout the world for their high standard of quality and finish, West of England fabrics are distinctly associated with this area in England, which centers in and around Stroud and Trowbridge. Incidentally, West Riding fabrics of England come chiefly from the Yorkshire area. Much West of England fabric has the characteristic window-pane design which adds to its popularity in the outer-garment trade for men's and women's apparel.

WESTERN WOOL: See Territory Wool.

WET FINISHING OF ANIMAL FIBER CLOTHS: The processes or operations that may be given to a bolt, cut, or length of cloth by running it through the various and sundry wet finishing operations in the mill. Some of the operations are dyeing, bleaching, washing, fulling, milling, scouring, soaping, souring, crabbing, tentering, sponging, decating or decatizing, London shrinking, waterproofing, etc.

Not all of these operations are resorted to in finishing each cut. They are optional and are given, when necessary, in accordance with the finishing instructions.

WETHER: 1. English meaning is wool other than the first or virgin clip.

2. It also means a castrated male sheep, the ram. A female sheep is called a ewe, pronounced like the letter "U."

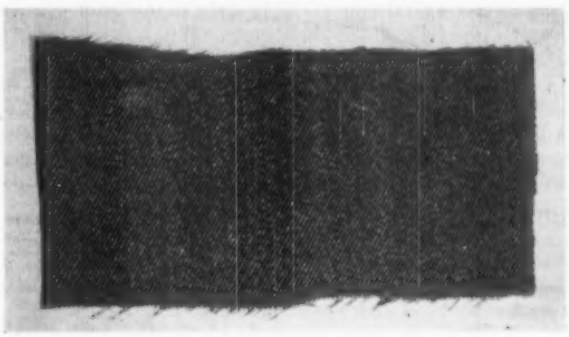
WETHER WOOL: Any wool from sheep after the initial or first shearing.

WHEEL OF LIFE RUG, THE: This masterpiece of art in rug weaving reposes in the Waldorf-Astoria Hotel, New York City. Made by the Mohawk Carpet Company, Amsterdam, New York, the rug has sixty-nine different colors and contains fifteen million tufts of wool. Sixteen weavers worked on the fabric for eight months.

The carpet, measuring two thousand, three hundred and four square feet — of which the center medallion contains three hundred and thirty square feet — depicts groups of life-size figures united by a rich floral relief. Between each group are smaller symbolic figures expressive of the emotions and main characteristics in the human drama portrayed by the larger groups. This drama, which treats of human existence from birth to old age and death, is divided into six groups:

1. The happiness of the family as the new arrival awakens.
2. Youth and friendship the theme of this group.
3. The struggle for life against storm, stress and strife.
4. Domestic felicity and mature serenity.
5. The cycle completion to the point of old age.
6. Death.

WHEELING YARN: A coarse type of knitting yarn used by hand knitters prior to the use of knitting machines. It is still used in many sections of the world today. These ply-yarns are not sold by number or count. Made of woolen or worsted fibers, the stock is thoroughly mixed after the manner of making a carded thread on a spinning wheel.



WHIPCORD: Dress woolen or worsted of fine and high texture. The twilled yarn is sharply defined with some fancy suggestions to whip lashes or cords. There are several cloths, some major and some minor in this group — coverts, tricotines, Poirets, twill-cords, chicotines, piquetines. The yarn in a whipcord is bulkier than the yarn of the tricotine or gabardine. The cloth is lower in texture and heavier in weight than these two materials. Weight ranges from 12 to 20 ounces per yard. Whipcord finds use in livery cloth, topcoats, uniform cloth, suitings and in public utility materials. The cloth may be made of cotton warp and worsted filling and steep twill weaves are used in construction. The fabric is exceedingly durable, rugged and stands hard usage and wear. Shines in time with wear.

Rayon whipcord is much used in riding habit, sportswear, uniform cloth. Cotton whipcord is used for automobile seat covers, boys' play suits, caps, riding breeches, uniforms.

Whipcord is made from a 63-degree twill weave and is always a compact, rugged, good wearing material.

WHITE MOUNTAIN SWISS: The white fleece of this breed of sheep has a staple of about two inches; chiefly used as mutton sheep.

WHITNEY: Overcoating fabric of the better type. The finishing of the fabrics consists of about two hours fulling, followed by scouring and carbonizing in the usual manner. Nap on the fabric is raised on the double napper with about five runs; some makers, however, prefer the wet-teasel gig method.

The fabric is then sheared to a smooth stand-up pile which is ideal in manipulation. The special napping device for the final finish is an arrange-

ment in which the cloth, after passing through card clothing rollers, goes through two surfaces — the upper surface is made of rubber, the lower one of plush. The surfaces, by an oscillating motion, produce the characteristic nubs, ripples and waves. The operation takes about one hour per piece of goods.

WHORL: The spindle on a ring spinning frame revolves because the whorl serves as a pulley for the spindle banding or tape.

WIDE WALE CLOTH: Comes from the Anglo-Saxon term "walu," meaning to mark or flail with stripes as with a rod. The weave is indicated by wide twilled or straight edges or ridges on face of the fabric. It is the opposite of narrow wale. Cloth under this caption is coarse, boardy material of the serge, cheviot and clay worsted variety. Some mackinac cloth is made with wide wales which give a serpentine effect to the cloth.

WIDE WALES: Materials made by the various degree twill weaves — 15, 20, 27, 45, 63, 70 and 75 degrees. To make these effective in cloth from 12 to 24 harnesses have to be used in the loom. The material has a diagonal appearance on its face. Wales are distinct in windbreakers, mackinac cloth, tablecloths of the fancy type and novelty fabrics.

WILD SHEEP: Undomesticated sheep as typified by Argali, Bighorn, Mouflon, etc.

WILLOW: The machine used to open and clean wool, particularly if it is very dirty, matted or clumpy. It consists of feed rollers, feed table, main cylinder and a series of toothed rollers which mesh with the cylinder and carry the wool around the machine for a half-revolution. Much foreign matter is taken out by the rugged action of the rollers or workers and the cylinder on the wool fibers. Also called Willying.

WILTON CARPET: Originated in Wilton, England, and is a variety of Brussels carpet which now ranks second to Chenille in quality and price. Woven in the same manner as Brussels, it is possible to cause some of the yarn to become "buried" in the back in order to add resiliency and quality. Wilton differs from Brussels in the fact that when the cut pile of the former is made, flat wires are used; Brussels is cut by using round wires; the knife edge cuts the loops to make the pile in both instances.

Wilton is made on a Jacquard loom and in a 27-inch carpet there would be about 2,000 ends, which gives a high, compact texture. Brussels and Wilton caused the rapid decline of Axminsters in the latter quarter of the 18th century. The elaborate, and at times, rather beautiful, designs are used in rugs, carpet, stair covering and runners.

WILTON LOOM JACQUARD: The pattern control on a Wilton loom. A chain of perforated cardboards which are stamped according to the design, when brought into position, activate this mechanism, causing it to select the desired color to form the design on the pile surface. The unselected colors are woven dormant through the body of the fabric.

WILTSHIRE HORNED SHEEP: Also known as Western, this is the name of a very old English breed of sheep that has dwindled considerably down through the years since other breeds have become more popular. The fleece is light in weight and the animal has the tendency to shed its wool as soon as warm weather sets in.

WINDBREAKER CLOTH: Name given to men's and women's sports jackets or reefers made of poplin, tackle twill and similar materials which have been given repellent finishes. See Mackinac.

WIRE VELVET: This cloth employs a series of rods or wires to obtain the pile effect. The wires are located under the pile warp and when they are withdrawn cause the face of the goods to have regular rows of loops across it. The rod, provided one end has a sharp blade on it, will cut these loops and give the cloth a cut pile effect. See Cut Velvet.

WIRES: A long metal strip used to form the pile of wilton, tapestry, and velvet carpets. In axminster and chenille, the pile is inserted without the use of wires, and is referred to as rows.

WIRY WOOL: That wool which seems to be practically devoid of serrations. Working properties of the poorest when compared with almost any other type of wool. Much used as a "filler-in" fiber in low grade children's coating and floor coverings.

WITCH: An old English term for a dobby head motion on a loom. May also mean the shedding motion of a loom.

WITNEY, WITNEY BLANKET: Popular all-wool blankets made in Witney, England; term applied to blankets only made there.

WOOF: Comes from the Anglo-Saxon "owef." It is another name for warp or warp yarn but sometimes, chiefly in advertising textiles, the word has been used to imply filling yarn and made to interchange with the other term, weft. It is apparently much safer to use the terms, warp and filling, in this country; in the carpet trade, however, weft is used instead of the American term, filling.

WOOL

WOOL: 1. Strictly speaking, the fibers that grow on the sheep fleece. The Wool Products Labelling Act of 1939, however, decreed that wool "means the fiber from the fleece of the sheep or lamb, or the hair of the Angora or Cashmere goat (and may include the so-called specialty fibers from the hair of the camel, alpaca, llama, and vicuna) which has never been reclaimed from any woven or felted wool product."

This law also defines the following:

REPROCESSED WOOL — The resulting fiber when wool has been woven or felted into a wool product which, without ever having been utilized in any way by the ultimate consumer, subsequently has been made into the fibrous state.

REUSED WOOL — The resulting fiber when wool or reprocessed wool has been spun, woven, knitted, or felted into a wool product which after having been used in any way by the ultimate consumer, subsequently has been made into the fibrous state.

WOOL PRODUCT — Any product, or any portion of a product, which contains, purports to contain, or in any way is represented as containing wool, reprocessed wool, or reused wool.

Wool from sheep will readily felt, a highly desirable property. The fiber is made of overlapping scales or serrations which vary with the several breeds of sheep and the grades of wool; there are from 600 to about 3,000 to the inch. The structure of the fiber is comparable with the scales on a fish or an asparagus tip. Wool is warm, springy, elastic; may be harsh or soft.

There are five general types used in some classifications — fine wools, medium wools, cross-bred wools, luster wools, carpet wools. On the four-point method of classifying wool the table includes combing, carding, clothing, carpet wools.

2. There are several types and varieties of wool used and they are classified according to fineness, color, staple length, etc. Some few of these types include:

ALPACA WOOL — Fine long staple wooly hair of the alpaca, a South American goat-like animal.

ANGORA WOOL — Long, soft, hair-like wool from the angora goat, native to Anatolia, the home land of the Turks and now raised extensively in Texas with Kerrville as the center. Used in combination with wool, mohair and mixture fabrics.

BOTANY WOOL — Very fine Merino wool from the Botany Bay area in Australia. Used only in the finest of woolen and worsted fabrics.

CASHMERE WOOL — Very fine, soft wool found underneath the outer or harsh hair on goats raised chiefly in the Himalaya Mountain area.

CARDING WOOL — Wool of irregular length and not of the quality that can withstand the combing operation in processing. Carded woolen yarn may be classed as a conglomerate mass of fibers when compared with a combed worsted yarn.

COMBING WOOL — Wool fibers with a staple length from 1½ inches up to 6 inches. Combed stock is known as worsted in which the fibers are of the same staple length, such as a 3-inch, 4½-inch staple, etc. Worsted top is used as the base for making worsted yarn.

KEMPY WOOL — Harsh, irregular, rough wool used chiefly in carpets. Sick or diseased sheep will often produce a type of wool that is known as kempy.

LAMB'S WOOL — Elastic, soft, resilient wool fibers obtained from lambs when they are seven to eight months old — the first or virgin clipping from the animal. This lofty stock is used in better grades of fabrics.

MERINO WOOL — The highest, finest and best quality wool fiber obtained from sheep and used in better grade materials. Merino originated in Spain two thousand years ago and was developed under the aegis of Columella, the animal-husbandry expert in the time of Julius Caesar. Several

types of Merino are raised in some wool centers throughout the world — Ohio, Rambouillet, Saxony, Silesia, Spanish, Italian, South African, etc.

SHETLAND WOOL — Rugged wool, ideal for cheviots, shetland, homespuns and tweeds, raised chiefly in Scotland and the adjacent islands. Cheviot wool is comparable with Shetland wool.

TOP WOOL — Worsted slubbing or sliver wound into a top form which resembles a cheese in size. Noil has been removed from these fibers in combing and top stock contains fibers of the same staple length throughout. Used in making worsted yarn and fabric.

VIRGIN WOOL — "Any wool that has never before been woven, knitted, felted or otherwise processed into cloth or fabric, nor used for any other purpose."

WOOL AND FIBER RUG: This rug is made of a plain or twill weave and the cotton warp will show on the surface. The filling is carpet wool combined with spruce wood fiber that has been treated in order to withstand moisture. Washing will disintegrate the fiber. The rug may be made as a reversible or printed on one side only.

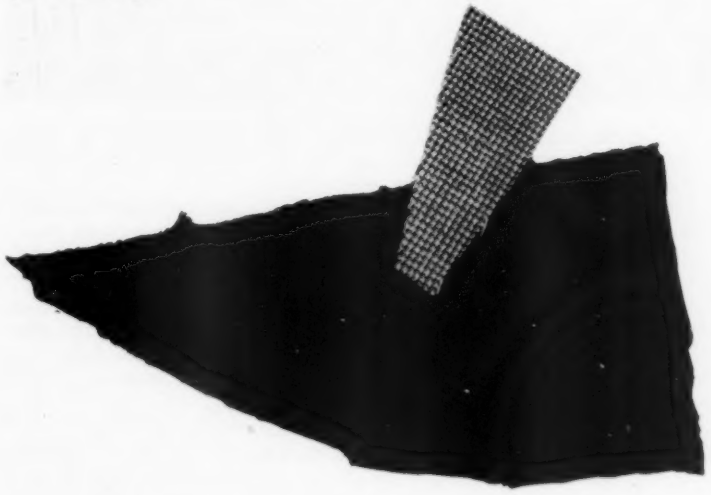
WOOL AUCTIONS: Practically all wool sold outside of this country is disposed of at wool auction sales to the highest bidder.

WOOL BACKED CLOTH: Fabric in which there is an extra warp or an extra filling used in construction. Weight, warmth and texture are increased by this method of weaving material. An extra warp fabric is known as a warp-backed cloth; if an extra filling is used the goods are known as filling-back fabric.

WOOL BAT: Carded wool sold in laps for filling comforters.

WOOL, BLEACHING OF: Wool fiber, yarn or cloth is usually bleached in the damp condition by the action of O_2 gas or a bath of sulphurous acid — $H_2 SO_3$. For the most part, these baths are not stable or permanent and much care must be used to obtain an even bleach. In time, the material will become yellowish in cast. In the mill, soap washing will readily show the thoroughness of the bleaching.

Woolen fabrics which have white in them will very often show the effect of poor bleaching since they will, as time goes on, begin to show the yellowish tinge.



WOOL, BLENDING, OILING, AND MIXING OF: Three operations which may be considered as one. Blending consists of taking various grades, colors, and types of stock and substitutes, and causing them to lie correctly and uniformly in their proper places in the blend. They are placed in an oblong pile, layer upon layer. After each layer has been laid, it is given a spraying of oil. The oiling is done by means of an automatic spray which causes the oiled fibers to respond better in the mechanical operations which are to follow. The oil-spray tank is usually located at the top of a side wall of the blending room. The spray is capable of reaching all portions of the layers as they are set down.

In the blend, the individual colors and characteristics of the various stocks used may be distinguished. Whether of wool, shoddy, cotton, mungo, extract wool, pulled wool, soft wastes, hard wastes, or what the colors may be. It is only after blending and oiling have taken place that mixing begins. When this occurs the stocks lose their individuality, and the grades are no longer distinguishable. Mixing may be compared with making a cake, in that the ingredients used are thoroughly mixed and individually indistinguishable.

The process of mixing consists of actually tearing down the blend from top to bottom and from side to side. The tearing down is done evenly. All of the varied stocks that were included in the blend are passed through to the mixing picker and presented to the feeding-in table of that machine. The mixing room usually adjoins the blending room or is an integral part of it.

The mix should fall onto the floor; and there should be no wall, posts, or encumbrances to cause the stock to fall unevenly and impeded. If the stock does not fall free and unimpeded, the cast, color, or shade in the finished spun yarn will not be even and true.

In mixing, the stocks are treated by a main roller and by a series of smaller rollers. They come in contact with all the rollers, and are mixed as nearly perfect as the mechanism can make it. The stock passes between a series of iron spur teeth. Thus it is assured that the mixing will be total. On coming from the mixing picker it is ready for carding.

WOOL, CHEMICAL COMPOSITION OF: This will vary slightly with the several grades of wool, depending upon the locality, soil and climatic conditions. The average percentages of wool approximately are: carbon, 50%; oxygen, 22%; nitrogen, 18%; hydrogen, 7%; sulphur, 2%, and slight traces of calcium, phosphorus and iron. The structure and composition somewhat resembles that of the hair on the head of a human being.

WOOL, CHLORINATION OF: A dilute solution of calcium or sodium hypochlorite causes the wool fibers either to lose their scales or fuse with the cortical region. Thus, shrinkage is decreased, luster or affinity for dyes increased, with its strength impaired.

WOOL, DOMESTIC: As applied to American wool, it means fleeces raised east of the Mississippi-Missouri River. Other names for it are: fleece, Eastern and farm.

When applied to wools of the world the term signifies all wool grown here as against wool from any other part of the world.

WOOL DYED: Usually refers to a cloth which has been stock dyed. This method of dyeing occurs after the wool has been scoured but before blending and mixing take place. Several distinct colors are run together in order to produce a mixed yarn effect which will, when the cloth is woven, give shades of some particular color.

WOOL, FELTING PROPERTIES OF: The properties possessed by most woolens result in the "cementing-together" of the protruding fibers in the cloth. The warp ends and the filling picks interlace because of the weaving operation, but the protruding fibers, not held in place, are held down in the cloth because of the felting properties of the woolen fabric.

Felting is made possible by the wet finishing operations given to the goods. The weave is covered up by these treatments and the short fibers work into the spaces between the interlacings in the weave. Thus, a solid, compact appearance is assured the face of the goods. Felting causes the goods to shrink in the finishing, thereby affording a higher texture — a greater number of ends and picks per inch in the fabric. This makes the cloth heavier in the finished state when compared with the gray goods from the loom.

WOOL FIBER DENSITY: The number of fibers produced within a set or given area on the body of the sheep; the more numerous the fibers, the greater will be the density and usually the grade will be higher in quality.

WOOL FIBER, STRUCTURE OF THE: Under the microscope, wool shows three distinct fiber parts.

1. EPIDERMIS — The outside or surface of the fiber, which consists of a series of scales that lie one on top of the other. These scales have saw edges which give the fiber its spinning and felting properties. This outside surface may be compared with the asparagus tip or the scales of a fish.

2. CORTEX — Also known as the corticule. This is the name given to the substance that makes the middle of the fiber. It consists of a series of fibrous cells that are shaped angularly. This is the part of the fiber that furnishes most of the elasticity and strength.

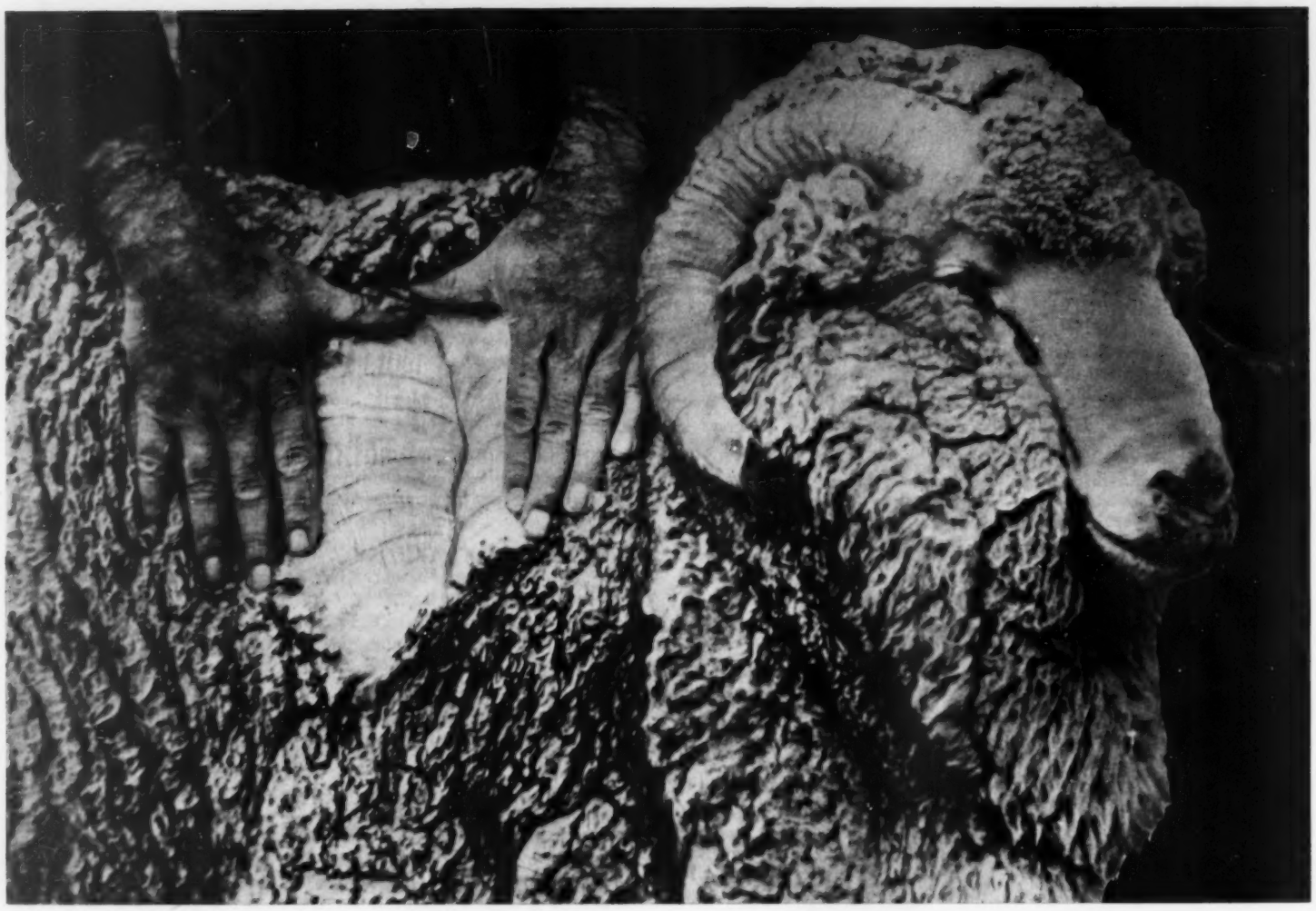
3. MEDULLA — The pith or core of the fiber. It is a channel through which the fibers receive nutriment and juices to sustain them.

Wool fibers seem to make the most desirable fiber in the animal-fiber kingdom. Sufficient length, strength, and elasticity, together with certain surface cohesion to enable many fibers to be drawn and twisted in the spinning operation in order to form a coherent and continuous yarn or thread prove to be valuable properties.

The power of absorbing coloring matters from solution and becoming dyed thereby, and the property of becoming bleached or decolorized when treated with suitable chemical agents seem to give wool some advantage over the other animal fibers.

Wool fibers felt or mat easily, thereby causing them to have uses for which other animal fibers are unsuited.

The unmodified term, Wool, has special reference to the product obtained from the many varieties of sheep.



WOOL FIBERS, CHARACTERISTICS OF:

PHYSICAL CHARACTERISTICS:

1. MICROSCOPICAL APPEARANCE — Rod-like, with the surface covered with horny scales simulating the scales of a fish or an asparagus tip.
2. LENGTH — Short wool, 1 to 6 inches; long wool, 6 to 14 or more inches; worsted, 1 to 6 inches.
3. DIAMETER — Ranges from .0018 to .0004 inches; from about 1/2000 to 1/3000 inches. Some very low quality, coarse wools will not approach the 1/2000-inch mark. Some African wools, for example, Algerian wool, will run to only 1/300 inches.
   The average micron measurement for wool will range from 12 to 17 up to 40 to 85 microns.
4. COLOR — White to yellowish brown with some wool black.
5. LUSTER — Good in coarse grades, low in better grades.
6. STRENGTH — Average single fiber will break at 15 to 30 grams.
7. ELASTICITY — Very elastic. The average fiber will stretch 25% to 35% of its length before breaking.
8. CONDUCTIVITY TO HEAT — Poor.
9. HYGROSCOPIC MOISTURE — Worsted, 10%; wool, 16% to 18%.
10. CAPILLARITY AND PENETRABILITY — Possess both.
11. FIBER COMPOSITION — Keratin; a mixture of nitrogen and sulphur compounds, amino-acid compounds.

CHEMICAL CHARACTERISTICS:

1. EFFECT OF LIGHT — Changes the chemical structure, making its action toward dyestuffs different; usually has greater affinity.
2. MILDEW — Attacked if left in a damp condition over a span of time.
3. HEAT — Wool will begin to decompose at 275° F. dry heat. If heated to 212° F. in moist atmosphere, wool becomes plastic and can be shaped and will retain the new shape if cooled.
4. WATER — Boiling water will reduce the luster and the strength.
5. MINERAL ACIDS — Concentrated acids will destroy wool. Dilute acids, such as sulphuric, hydrochloric, nitric or hydrofluoric will not injure the fiber, even at the boil.
6. VOLATILE ORGANIC ACIDS — Acetic or formic acids have no detrimental effect.
7. NON-VOLATILE ORGANIC ACIDS — Citric, oxalic or tartaric acids are not injurious if controlled and removed at the proper time.
8. STRONG ALKALIES — Strong solutions are injurious. Caustic soda or soda ash, in a dilute cold solution, will not injure the fiber if properly controlled by removal or neutralization. Lukewarm solutions of soda ash can be used on wool but must be removed at the proper time.
9. WEAK ALKALIES — They are not injurious if controlled.
10. OXIDIZING AGENTS — They will destroy wool if not properly controlled.
11. METALLIC SALTS — Wool has an affinity for these salts.
12. AFFINITY FOR DYESTUFFS — Good to excellent.
13. DYEING — Acid, some basic, chrome, and direct colors are used.
14. BLEACHING AGENTS — Chlorine or hypochlorite bleaches are harmful; however, under certain conditions they will produce "chlorinated wool," which has a high luster and is unshrinkable.
15. REDUCTION BLEACHES — Sulphurous acid (sulphur dioxide plus water) or hydrosulphites will cause little injury if carefully controlled.

WOOL FIBERS, SERRATIONS IN: They are found only in wool and do not appear in any other textile fiber. Serrations are caused by the uneven growth of cortical cells, which cause the fibers to contract and bend. Waviness is noted more in the higher grades of wool and they are almost negligible in the poor qualities. The serrations structure in wool gives it the property of felting, which is so valuable in making of overcoatings and other heavy materials.

Serrations or scales are not visible to the naked eye; they are the minute, unseen waves within the larger, visible waves noted in the wool fiber. They run from 600 to the inch in the low grades of wool up to 2400 to 3000 in the choice qualities of Merino stock.

WOOL, FOUR TYPES OF WOOL:

COMBING WOOL — The highest, finest and best wool obtained from sheep. The fibers are usually carded and combed, since they have the properties and characteristics necessary for the best grades of worsted yarn and fabric. Worsted fibers that have been combed are of the same approximate length, even, parallel, smooth, devoid of foreign matter, etc. Wool to be used for combing purposes has a high percentage of yolk and suint in the grease condition. Merino wool is always combed and usually is manipulated into high grade fabric.

CARDING WOOL — Of good quality, but not always satisfactory for combing purposes. Some stock, however, can be combed for use in medium to high quality fabric for men's wear and women's wear. Most carding wool, however, is of varying staple length and is used chiefly in woolens.

CLOTHING WOOL — A term used in wool grading to designate staple length. There is no standard length implied by the term, since it varies with the fineness of the wool in question.

Fine wools, 64s and over and called clothing wool, and are below 1¼ inches in staple length. As the wools become coarser when being sorted there is an increase of about ¼ inch per grade. Like carding wool, this wool shows much irregular fiber and there are, at times, goodly amounts of foreign matter, chiefly in the grease condition, such as burrs, dried grass, fodder, motes, pebbles, etc.

Clothing wool, in a broad sense, differs from carding wool in that the former may have varying amounts of other fibers worked with it in manipulation.

CARPET WOOL — Any wool not classed in the above grades; the lowest in quality of the four types. It cannot be combed and often gives trouble in carding. Most carpet wool used here comes from abroad since our flocks have been improved by scientific methods to the point where they grade in the classifications given above. Used in floor covering trade and in low quality boys' apparel, ski cloth, mackinac fabric, etc.

WOOL, FROM FLEECE TO FABRIC: The following figures of the National Association of Wool Manufacturers, 386 Fourth Ave., New York City, are very informative:

1. Three-fourths of one fleece of wool furnishes the following:
   - A. 6 pounds of grease wool or equivalent.
   - B. 4.4 pounds of scoured wool and noil.
   - C. 4.1 pounds of carded roving stock.
   - D. 4.0 pounds of spun woolen yarn.
   - E. 3 yards and 1 inch of grey goods, ready for dyeing.
   - F. 3 yards of finished fabric after sponging.
   - G. This yardage will make one woman's woolen coat. Women also wear worsted materials in outer apparel.
2. One and one-fifth fleeces of wool furnish the following:
   - A. 8.68 pounds of grease wool.
   - B. 3.34 pounds of scoured wool.
   - C. 4.17 pounds of carded sliver stock.
   - D. 3.62 pounds of worsted top, combed fibers; plus .55 pounds of noil, a by-product of the combing operation.
   - E. 3.44 pounds of roving stock ready for spinning.
   - F. 3.20 pounds of spun worsted yarn.
   - G. 3 yards and 27 inches of grey goods, ready for dyeing.
   - H. 3 yards and 18 inches of dyed goods, piece or yarn dyed; the fibers could have been stock dyed if desired. This operation would follow scouring and precede carding.
   - I. 3 yards and 13½ inches of finished fabric after sponging. This yardage will make one man's worsted suiting.

WOOL GRADE: 1. Quality or relative fineness of a wool fiber. The individual diameters of wool fibers determine the actual grade. Several tests are made and the average determines the grade to which the wool belongs.

2. Sheep of mixed-blood which show no particular breed characteristics. The term is often used with reference to cross-bred sheep.

WOOL GRADING, PIECES IN: Batches of wool scraps obtained in sorting which are later on mixed with better wools to insure their usage.

WOOL GRADING TABLES OF THE WORLD:

1. UNITED STATES METHODS.

Domestic Wools	Territory Wools	Pulled Wools — Eastern April/May Clothing	May/August Clothing	August/November Clothing: Combing		December/March Clothing: Combing	
XX, X or 3/4 or Delaine	Fine					AAA & AA	AA
Half Blood	Half Blood	A Lambs	B Lambs	A Lambs		A & Super A	A
Three Eighths	Three Eighths	B Lambs	B Super	B Lambs		B Lambs	
Quarter Blood	Quarter Blood		B Stain		B Combing	B	B
Low Quarter	Low Quarter	C Lambs	C		Low Combing	B	Medium
Common, Braid, (Britch)	Common, Braid, (Britch)	C Lambs	C		Low	C	Low

2. FOREIGN METHODS (with comparative United States counts of yarns):

Continental Counts Spun to	Cape, Australian & New Zealand	South American	U.S. Worsted Spinning Counts.	U.S. Run Wool Spinning Counts.
Delaine-64-70s	Merino	Merino	60s	6-7s.
Half-58-60s	Comeback	Prima	60s	5s
Three Eighths 56s	Half Bred	Ones	36-40s	3.5s
Quarter 48-50s	Half Bred			
	Low	Twos	30s	2.5s
Low Quarter 46s	Quarter Bred	Threes	26s	2s.
Common, 36-44s Braid, (Britch)	Lincoln and Cotswold	Fours Fives Sixes	16s	1s .75 or 3/4s

WOOL, HYDROSCOPIC PROPERTIES OF: Wool has the greatest of hydroscopic properties and its moisture content will vary with the temperature, particularly when humidity is considered. The normal moisture content of wool is 16%, but it may vary from 12% to 20% under certain conditions. When wool is sorted in a damp place the content may run as high as 25%.

WOOL, IMITATION NATURAL: Refers to undyed or unbleached wool which may be imitated by adding dark colored fibers to white wool in order to prevent the goods from showing a soiled effect too soon.

WOOL MATCHINGS, ENGLISH: These matchings are as follows:

1. Picklock ..... from shoulder stock
2. Prime ..... from sides
3. Choice ..... from middle of back
4. Super ..... from middle of sides
5. Seconds ..... from lower sides
6. Downrights ..... from neck
7. Abb ..... from hind legs
8. Britch ..... from haunches

WOOL NOIL: Combing separates the long, choice, desirable fibers from the shorter ones. All fibers under some desired length are removed by the comber. These "rejected" fibers are called Noil. They are usually as good in quality as the top, but do not have the length in order to sustain themselves in manipulation from raw stock to yarn; hence, the necessity of noil to be worked with other longer staple fibers. Noil is an excellent raw material for many types of woolens. It is used to good advantage in cloths with a napped face, in knitted yarns, flannels, broadcloths, etc. Besides wool noil, these short fibers are found in mohair, alpaca and other hair fibers; in cotton, other bast fibers, and in man-made staple filaments.

Noil is divided into long or short wool noil. The former stock comes from the well-known English wools, long in staple length — Lincoln, Leicester, Cotswold, Romney Marsh and Cheviot wools — the Class Three wools in world classification. Fine or short wool noil is secured from medium and fine grade Australian, Cape, Continental, South American and United States wools. The term domestic, when applied to noil, means noil of this country. The term foreign is applied to any noil from a foreign nation. In this country there is no distinction as to whether or not the stock comes from Domestic or Territory wool.

Noil is classified in the same manner as top — according to the grade

of wool from which the stock was taken to be combed. One notes the following — fine domestic noil, ½-blood domestic noil, etc. Foreign stock in this country is classified as: ⅜-blood noil, South American; ½-blood noil, Cape wool; fine noil, Australian wool, etc.

In Great Britain, and on the Continent, tops are classified by the yarn count to which the stock is supposed to spin. Noil is classified on the basis of the quality of the top produced by the combing. A 40s noil is one secured from a 40s top. The percentage of noil taken from the wool depends on the relative amount of short fiber present in the wool, and in the settings of the comber. Fine wools produce a heavier noil than coarse wools. The percentage of noil removed from the comber varies from 7 to 25 per cent.

The average percentages for the grades of Domestic wool are: fine staple, 17 to 20 per cent; half blood, 15 per cent; three-eighths blood, 12 per cent; quarter blood, 10 per cent.

WOOL, NUMBERS FOR FLEECE:
First — Long staple fibers obtained from sides of the fleece.
Second — Stock from the back, across the loins, to the neck area.
Third — Fibers from the lower part of the back.
Fourth — Staple obtained from the rump area.
Fifth — Wool from the thigh area.
Sixth — Also known as britch, it is wool from the lower portions of the thigh area.

WOOL PACKS: Coarse jute fabric used for packing raw wool during transit.

WOOL PIECES: Staples in small batches from various breeds and types of sheep that accumulate during classing and sorting. Pieces are sold as regular or mixed lots to mills.

First pieces imply the longest of the skirted wool after the broken bits have been removed.

Second pieces are the first trimmings and the small pieces which do not fall through the screen of the piece-picking table.

WOOL, PROPERTIES OF HEAT AND ELECTRICITY IN: Wool is not a good conductor of heat and electricity. Unlike cottons, woolens and worsteds hold the heat of the body in suspension for long periods of time, a decided asset to the wearer of these garments.

WOOL, SCOURING TEST IN: This is used to determine the yield of certain wools, the separation of the yolk and suint from the actual fiber. The sample is immersed in a soap solution until the impurities have been removed. Washing and drying of the sample would follow.

The yield can be determined by comparison with the dry weight, before scouring, and with the dry weight after scouring.

To find the amount of scoured wool in a lot, the moisture content of the raw wool must, of course, be considered in the computation.

The regain is usually applied to the yield value in order not to include a moisture regain on the greasy and oily matter. The commercial scouring test is applied to tops; woolen, worsted and cotton yarns and wastes.

The sample is divided into two equal parts. Each part is scoured independently of the other. If the average is close enough on the check-up, the figures are accepted. If not, a new test is made and the averages are checked again.

WOOL SHEARS: The long shears used when skirting a wool fleece.

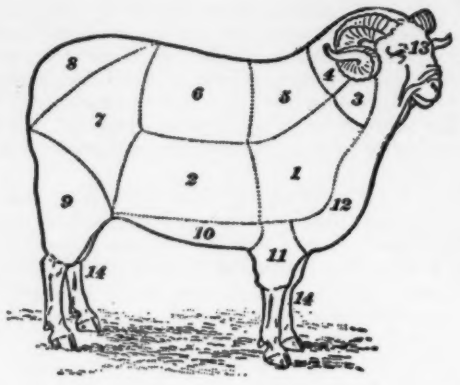
WOOL SHEER: A general classification under which may be grouped all thin lightweight women's-wear fabrics. Usually woven from worsted yarns, although some woolen fabrics are sufficiently thin to be classified as sheers.

WOOL, SHRINKAGE AND YIELD OF AMERICAN: On a 100 pound basis, the approximate yields obtained from American methods of scouring wool are:

1. XX will yield ..... from 30 to 35 pounds of scoured wool
2. X or ¾ will yield ..... from 35 to 40 pounds of scoured wool
3. ½ blood will yield ..... from 40 to 50 pounds of scoured wool
4. ⅜ blood will yield ..... from 50 to 55 pounds of scoured wool
5. ¼ blood will yield ..... from 55 to 60 pounds of scoured wool
6. Common will yield ..... from 60 to 65 pounds of scoured wool

WOOL SORTER'S DISEASE: See Anthrax.

WOOL SORTS FROM SHEEP: The so-called shoulder wool is about the best wool in the fleece. In order, follow the side, neck and back wool. The numbers in the sketch at the top of the adjoining column show the order of preference by the wool sorter. This sketch has been widely used as a chart for educational purposes for the past few years.



WOOL SORTS

"Shoulder Wool" (Number 1) is usually the best fiber in the Sheep Fleece. Next comes side, neck and back wool. The numbers show order of preference.

—Courtesy of Nat'l Ass'n Wool Mfgrs.

WOOL STAPLE: Wool-sorting term to denote whether the wool is of sufficient strength and the fibers sound enough for making warp yarn. A collection of several tufts of wool connected together by a binder.

WOOL STAPLER: Old English term for wool merchant.

WOOL, TESTS WHEN BUYING: The wool buyer must look for the following when buying wool as it is on the sheep's back:

1. The qualities of sorting, scouring, carding, combing, spinning and twisting.
2. The staple of the stock, serrations per inch, and shrinkage amounts compared with the yield when the wool is scoured.
3. The spinning qualities of the wool. The stock must be able to spin to the estimated counts.
4. Strength enough to withstand the rigor and strain in the manufacturing operations.
5. Cloth made from the yarn must have the correct tensile strength.
6. Texture of the finished cloth must be satisfactory.
7. Fibers must have the correct staple length for manipulation in drawing, twisting and winding.
8. Softness, pliability and harshness of the wool have to be noted so that the buyer may be guided accordingly.
9. The stock must have the correct felting properties, if the goods are to be felted in finishing, to withstand the rigors of fulling, milling, scouring, washing and shrinking.
10. The wool should have enough whiteness, or be able to scour to the white, if the material is to be dyed evenly.

WOOL TOP: Also referred to as worsted top, it is the continuous sliver form of long, choice woolen fibers which are to be manufactured ultimately into worsted yarn. The combing operation takes out the short fibers from the desired, choice stock. These are called noil. Worsted top contracts are made in units of 5,000 pounds.

WOOL TYPES:

1. Fine Wools — These are of the Merino type and include Merino sheep of Spain, Germany, Austria, Ohio, Argentina, Rambouillet of France, Australia, and South Africa.
2. Medium Wools — These are obtained from English down breeds and include Dorset, Hampshire, Oxford, Shropshire, Southdown and Suffolk.
3. Long or Luster Wools — These come from the sheep of Cotswold, Leicester, and Lincoln. The semi-luster wools are obtained from Border Leicester, Cheviot, and Romney Marsh.
4. Carpet Wools — These come chiefly from the following breeds of sheep: Asian, Fat-tail African, Karakul-Asian, Navaho-American, Scotch blackface, Zackel-European.
5. Cross Breeds — Major types include Columbian, Corriedale, and Polwarth. These are cross-breeds of fine wool and long wool types.

WOOLEN AND WORSTED CARDING, SETS IN: Worsted carding is done by a double-cylinder card — two cards connected by means of a roller known as the angle stripper. This roller, similar to a doffer roller, takes the carded wool from the first card in the set and delivers it to the feeding-in end of the second card. The number of operations which follow worsted carding do not warrant any other treatment, as far as carding is concerned, to the wool.

Low and medium wools for wool yarn are run on a three-yard set. The machines are the first-breaker card, second-breaker card, and the finisher-condenser card.

High grade wools for wool yarn are run on a four-set card. The machines are the first-breaker card, the second-breaker card, the finisher-card, and the condenser-card.

The last card in either the three or four-set arrangement has the wool in roving form ready for presentation to the mule for the final operation in wool yarn manufacturing, spinning.

WOOLEN AND WORSTED YARD WEIGHTS IN OUNCES FROM ONE-INCH SQUARE SAMPLE:

Weight in grains of sample	Finished Width 54″	Finished Width 56″	Finished Width 57″	Finished Width 58″	Finished Width 60″
1.0 grains	4.4 ozs.	4.6 ozs.	4.7 ozs.	4.8 ozs.	4.9 ozs.
1.1	4.9	5.1	5.2	5.3	5.4
1.2	5.3	5.5	5.6	5.7	5.9
1.3	5.8	6.0	6.1	6.2	6.4
1.4	6.2	6.4	6.6	6.7	6.9
1.5	6.7	6.9	7.0	7.2	7.4
1.6	7.1	7.4	7.5	7.6	7.9
1.7	7.6	7.8	8.0	8.1	8.4
1.8	8.0	8.3	8.4	8.6	8.9
1.9	8.4	8.7	8.9	9.1	9.4
2.0	8.9	9.2	9.4	9.5	9.9
2.1	9.3	9.7	9.9	10.0	10.4
2.2	9.8	10.1	10.3	10.4	10.5
2.3	10.2	10.5	10.8	11.0	11.4
2.4	10.7	11.0	11.3	11.5	11.9
2.5	11.1	11.5	11.7	11.9	12.4
2.6	11.5	12.0	12.1	12.4	12.8
2.7	12.0	12.4	12.7	12.9	13.3
2.8	12.4	12.8	13.1	13.4	13.8
2.9	12.9	13.3	13.6	13.8	14.5
3.0	13.3	13.8	14.1	14.3	14.8
3.1	13.8	14.3	14.5	14.8	15.3
3.2	14.2	14.7	15.0	15.3	15.9
3.3	14.7	15.2	15.4	15.7	16.3
3.4	15.1	15.6	15.9	16.2	16.8
3.5	15.5	16.1	16.4	16.7	17.3
3.6	16.0	16.6	16.9	17.2	17.8
3.7	16.4	17.0	17.4	17.7	18.3
3.8	16.9	17.5	17.8	18.1	18.8
3.9	17.3	18.0	18.3	18.6	19.3
4.0	17.8	18.4	18.8	19.1	19.8
4.1	18.2	18.9	19.2	19.6	20.2
4.2	18.7	19.4	19.7	20.0	20.7
4.3	19.1	19.8	20.2	20.5	21.2
4.4	19.6	20.3	20.6	21.0	21.7
4.5	20.0	20.7	21.1	21.5	22.2
4.6	20.4	21.2	21.6	22.0	22.7
4.7	20.9	21.7	22.0	22.4	23.2
4.8	21.3	22.1	22.5	23.0	23.7
4.9	21.8	22.6	23.0	23.4	24.2
5.0	22.2	23.0	23.5	23.9	24.7
5.1	22.6	23.5	23.9	24.3	25.2
5.2	23.1	23.9	24.4	24.8	25.7
5.3	23.5	24.4	24.8	25.3	26.2
5.4	24.0	24.8	25.3	25.8	26.7
5.5	24.4	25.3	25.8	26.2	27.2
5.6	24.9	25.8	26.3	26.7	27.7
5.7	25.3	26.2	26.7	27.2	28.2
5.8	25.8	26.7	27.1	27.7	28.7
5.9	26.2	27.1	27.5	28.1	29.2
6.0	26.4	27.5	27.9	28.6	29.7

WOOLEN CHIFFON VELVET: The same in construction as better grade broadcloth but much lighter in weight. The cloth runs from seven to ten ounces in weight per yard, has a fine, kindly feel and will give excellent wear since all of the material is rather high in price and made of good quality stock.

WOOLEN FINISH FOR COTTONS: A napped finish applied to some cotton cloths to give them the appearance of woolens. This finish is seen in flannel, domet, blankets, cantons and kindred fabrics.

WOOLEN RUN: The number of 1600-yard hanks of yarn in one pound; 7000 grains of the yarn under standard conditions.

WOOLEN SYSTEM: Used with regard to the manufacture of woolen yarn from short staple stock, noil, soft or hard wastes, reused wool, remanufactured wool, reclaims, etc. The operations include sorting, scouring, blending, oiling, mixing, carding and mule spinning. Within recent years ring spinning has made some progress in the manipulation of wool into woolen yarn.

WOOLEN-WORSTED YARN DESCRIPTION: Woolen and worsted yarns are often plied to increase strength, evenness and uniformity. Two-ply woolen and two-ply worsted yarns are common today.

Woolen yarns are usually designated as to size by the Run or Boston System and the Philadelphia or Cut System. Worsted yarns are designated by the term, count of yarn.

A 1-run woolen yarn has 1,600 yards in 1-pound, a 2-run yarn would have 3,200 yards to the pound and so on. The latter yarn would have one-half the diameter of the single 1s yarn but would be twice as long on the pound basis.

A 1-cut woolen yarn has 300 yards in one pound of the yarn.

There are 560 yards in one pound of a 1s worsted yarn; a 10s worsted yarn would have 5,600 yards to the pound (560 x 10 or 5,600 yards to the pound). A partial table of the equivalent yarn sizes follows:

Yards Per Pound	Woolen Yarn *Cut*	Woolen Yarn *Run*	Worsted Yarn *Count*
300	1		
560			1
1,600		1	
2,240			4s
2,400	8	1½	
4,480			8s
4,800	16	3	
5,600		3½	10s
6,400		4	
9,600		6	
11,200		7	20s
16,800			30s
22,400			40s

WOOLEN YARN: A rather broad term, used extensively to denote that yarn made from wool fibers, possibly irregular in length, and, at times having fibers other than wool mixed with it. The fibers lay more or less in a topsy-turvy direction and are carded but not combed. Used in the sweater trade for coarse, heavy woolen hosiery, shaker sweaters, and in many types of woven innerwear and outerwear.

WOOLENS: Cloth made from woolen yarn but not always one hundred percent wool in content. The average woolen has a rather fuzzy surface, does not shine with wear, may hold the crease well, has nap and in the majority of cases, is dyed. Woolen finish is rather easily recognized on fabrics to determine the difference between this cloth and a worsted material.

WOOLENS AND WORSTEDS: There are three types of fabric made from the wool of sheep — woolens, worsteds and unfinished worsteds. Woolen cloth may be distinguished from worsted fabric by its softer feel and a rather uneven, napped or fuzzy surface effect.

Unfinished worsteds may be made of: 1. Worsted warp and woolen filling. 2. Soft-spun French system worsted yarn. 3. Warp and filling with certain amounts of the so-called waste or substitute fibers mixed in.

French spun yarn is softer than the English or Bradford spun yarn. The cloths seem to have a softer, loftier feel. It is, however, sometimes next to impossible to determine whether a fabric is spun on the French or the Bradford system.

Worsted fabric should show a clear outline of the weave construction and pattern. If the weave is a twill, the diagonal lines should be symmetrically balanced; if made of a plain weave the fabric should show the construction clearly. When held to the light, worsteds reveal a luster without polishing.

Clear-finish worsteds should have a clean, smooth, surface effect, even in all respects; that is, the material should be well and evenly sheared in the dry finishing. The texture should be uniform and even and show no blemishes. A clear-finish worsted will shine, in time, because of friction, chafing and wear. It is virtually impossible to remove the shine from the fabrics of this type. The cloth holds the crease very well and the wear is excellent.

Unfinished worsted will not shine but does not hold the crease as well as clear-finished fabric. Shearing must be done with utmost care if it is resorted to and the nap or protruding fibers must be finished so that these fibers add to the appearance of the goods. Cropping requires a high degree of skill. Knots and other possible blemishes must be removed prior to shearing since a knot or slub falling under the shear blade may do irreparable damage. Shearers must watch the cloth constantly during shearing to guard against flaws that might spoil the fabric because the shear blade scraped or caught the blemish.

Worsteds and woolens may be woven in single, double or triple cloth construction. Double and triple constructions receive their effect by the use of two or more warps and fillings being woven together in distinctive patterns or designs.

Some staple woolens and worsteds include single construction fabrics such as cassimere, cavalry twill, cheviot, crepe, flannel, gabardine, homespun, serge, tweed. Double and triple constructions may include, when deemed necessary, some of the foregoing cloths, as well as beaver, broadcloth, chinchilla, covert, kersey, melton, ski cloth, Whitney, Worumbo, etc.

WOOSIE, WOOZY WOOL: The lustrous, short staple fiber as seen, for example, in Chinese wool; rather difficult to manipulate.

WORKER ROLLERS: There are from four to seven of these rollers on the woolen or worsted card. These card-clothed rollers work in conjunction with a similar number of stripper rollers and cylinder to card wool fibers. The worker goes the slowest of the three rollers. It has the wool laid onto the card clothing of the roller by the cylinder. The stripper roller takes the wool from the worker because of its greater speed, and the way in which the bends in the card clothing are set in the two rollers. On the card, the workers, strippers and cylinder are the only rollers that do actual carding; all other rollers are auxiliary in nature.

WORLD WOOL PRODUCTION (Mostly 1945):

	Greasy Pounds	*Type of Wool*
Australia	905,000,000	Largely Apparel
Argentina	500,000,000	70% Apparel — 30% Carpet
United States	390,000,000	Apparel
New Zealand	370,000,000	Largely Apparel
British South Africa	228,000,000	Apparel
Soviet Union	220,000,000	Largely Carpet
Uruguay	137,000,000	Apparel
Southeastern Europe	96,000,000	30% Apparel — 70% Carpet
Spain	95,000,000	Largely Apparel
United Kingdom	90,000,000	Largely Apparel
China	90,000,000	Largely Carpet
French North Africa	91,000,000	80% Carpet — 20% Apparel
India	85,000,000	Largely Carpet
Turkey	70,000,000	Largely Carpet
Iran	44,000,000	Largely Carpet
Iraq	27,000,000	Largely Carpet
France	25,000,000	Apparel
Italy	23,000,000	Largely Apparel
Canada	19,000,000	Largely Apparel
Others	255,000,000	
Total	3,760,000,000	

WORSTED COMBING: The separation of long, choice, fibers from the short, immature, undesirable stock. The former is called "top"; the latter, "noil," which is used as a filler-in stock and substitute fiber in many cloths. Noil is about the same quality as top but it is not long enough to be worked alone.

WORSTED COMBING, METHODS OF: 1. Short wool, from 1½ to 5 inches in staple, is combed by the Heilman or French system of combing — the upright frame method.

2. Medium wool, from 2½ to 8 inches in length, is combed by the Noble or Circular comber — the English or Bradford method.

3. Long wool, from 8 to 12 inches long, is cared for by the Lister or Square-knit comber. This wool is prepared and not combed. Efforts to comb stock over 10 inches long do not always give good results.

WORSTED, RECOMBING OF: Combing of worsted fibers a second time to insure the removal of all noil fibers so that the best possible spun yarn will result from the top fibers when they are manipulated.

WORSTED SYSTEM: The method of manufacture resorted to for medium and higher types of wool of good staple properties. Fiber length used may range from 1½ inch stock for the French or Franco-Belgian system and from around 2 inch staple for the Bradford or English system of making worsted yarn. Six or seven inch staple is about the limit that may be employed for worsted yarn manufacture. The main operations include carding, combing, gilling, drawing, and spinning on the mule, ring, cap or flyer frames. In some mills gilling may precede combing.

WORSTED-TYPE WOOL: That suitable for manufacture into worsted fabrics; combing wool in classification.

WORSTED YARN: Made from choice woolen stock that can be combed after carding. The fibers are specially treated — drawn, drafted, doubled and re-doubled in the machines. In the knitting trade, worsted yarn has great use in sweaters of varying types that are in demand from season to season.

WORSTEDS: Popular class of cloths made of choice woolen stock using fibers of approximately the same length in staple. The process of making worsted cloth originated in the little village of that name in Norfolk County, England. Today, the procedure of making worsted cloth has changed somewhat because of the improvement in up-to-the-minute modern machinery. The Paris Exposition of 1889 "made" worsteds; it was also at this event that Count Hilaire de Chardonnet showed his first fabric made of what was then known as "artificial silk." Now known as rayon and acetate rayon, the Sesquicentennial Exhibition of 1926 had much to do with fostering the advent of these two man-made fibers, which now are household words and articles.

WORSTEDS, GASSING OR SINGEING OF: Certain types of worsteds are passed over a gas flame to singe the protruding fibers in the same way that cotton is made bereft of fuzziness. The cloth will take on a smooth, uniform surface that enhances the material. After singeing, the material must be washed very thoroughly so as to rid the fabric of any animal matter odor that might remain.

WORUMBO: Registered trademark of the Worumbo Mills, Inc., Lisbon Falls, Maine, for fabrics made of wool and rare fibers in many types of construction, weaves and finishes.

WRONG DRAWS: Warp threads that have been drawn through incorrect heddle eye of the harness or through the wrong reed split in the reed. Wrong draws often result, as well, from careless work on the part of the weaver. These blemishes are very detrimental to woven goods, since they show aggravating, fine lines in the warp direction that are not in accord with the layout of the pattern as set down by the designer or styler.

Weavers should do their utmost to always follow the drawing-in and reeding plans for the warp in the loom.

WYATT, JOHN AND PAUL, LOUIS: In 1738 these two interesting English inventors introduced the principle of drawing rollers that made possible the spinning of yarn without the use of the fingers. Their invention gave to the world the use of excess speed of rollers and the principle of drawing and drafting textile fibers.

In 1748 they invented the revolving cylinder carding machine.

XX, XXX: Called X, double-X or two-X and triple-X or three-X, these symbols are used to designate fine wools of 64s, 70s and 80s quality, respectively.

ACHT CLOTH: Stoutly made, unfinished worsted in blue, white and delicate stripes. Used in yachting circles.

YAK: 1. A wild or domesticated annmal of the ox family, blackish-brown in color and native to the plateaus of central Asia and particularly to Tibet. The animal is of good size and has a coat of long wavy hair fiber which covers the entire body except on the back where the hair is short and silken-like. The hair is used in making coverings, rope and very rough, crude fabrics; the soft undercoat finds uses in dressgoods peculiar to the regions where the animal is raised.

2. A coarse, pillow lace made from the soft, undercoat fibers of the yak. The better grades of this lace are called Tibetan lace.

3. A machine-made lace of worsted yarn used for trimming on shawls, throws, scarfs, etc.

YARN: Spun yarn is the product of the spinning frame characterized by being a continuous, evenly distributed, coherent arrangement of any type of fibers of varying or similar staple length, the relative positions of which are maintained by the introduction of a definite lateral twist to produce strength or coherence imparted in the final operation.

Notable exception to the above would be the woolen-type yarn. Here the fibers are distributed at near right angles with relation to the continuous length of the yarn.

An exception to even spinning would be the addition of noiled fibers to the base stock. Noils do not lend themselves to being properly drawn, in consequence a rough texture yarn, desirable for tweeds and shantungs, is produced.

To produce spun yarns, the raw stock must be put through preparatory machinery for even distribution and blending after which there is the carding or combing to achieve parallel fiber distribution; then a group of attenuating or drawing machines follow, ending with the spinning. Yarn in production is called a lap, sliver, and roving, in that order depending on the type of machine used.

Yarns are definitely sized or numbered based on the number of standard yardage hanks contained in one pound.

Filament yarn is made from various continuous filaments, such as silk and man-made yarn — viscose, acetate, nylon, vinyon, etc.

YARN COUNTS, WORLD SCALE OF: The following list shows the scale of yarn counts in the leading textile areas of the world:

1. COTTONS: 840 yards of yarn constitutes one hank and the number of hanks in one pound avoirdupois gives the count of yarn. This scale is used for Patent Silk.

   2/60s cotton means single 60s doubled to give a 30s yarn.

   2/60s patent or spun silk, better understood for recognition purposes written as 60/2, is single 120s doubled to 60s.

   A spindle is 18 hanks which equals 15,120 yards, 840 x 18 gives 15,120.

2. YARDS PER POUND: The simplest measurement of all scales.
3. YARDS PER OUNCE: Used in Dewsbury, England for woolen yarn counts and in Yorkshire for organzine silk. Sometimes referred to as the West of England system.
4. YARDS PER DRAM: Used in Huddersfield, England for woolen yarns counts. 20 skein yarn implies that 20 yards will weigh one dram.
5. METERS PER KILOGRAM: French and Swiss #100s means that there are 100,000 meters of yarn to one kilogram, 2.2 English pounds. The table is based on the metric system, in which one meter equals 39.37 inches.
6. ITALIAN SCALE: The rules of the London Silk Conditioning House govern this scale which decrees that the hank equals 400 French ells, 476 metres or 520 yards.

   533 1/3 denier make one ounce avoirdupois. The number of denier that one such hank weighs gives the count of the yarn.

7. MANCHESTER SCALE: This English hank is 1000 yards and the number of drams that such a hank weighs is the count of yarn.
8. LINEN SCALE: The lea or hank is 300 yards and the number of these in one pound is the count of yarn. A spindle is 48 lea or 14,400 yards, 300 x 48 gives 14,400.

   A bundle of lea is 200 hanks or 60,000 yards, 300 x 200 gives 60,000.

9. WORSTED SCALE: The hank is 560 yards, two thirds that of cotton which is 840 yards. The number of such hanks in one pound is the count of yarn.
10. HAWICK SCALE: The cut is 300 yards and the number of cut in 26 ounces is the count of yarn. A spindle is 48 cut or 14,400 yards, 300 x 48 gives 14,400. A slip is 12 cuts.
11. GALASHIELS SCALE: The cut is 300 yards and the number of cut in 24 ounces is the count of yarn. A spindle is 48 cut or 14,400 yards, 300 x 48 gives 14,400. A slip is 12 cuts.
12. ALLOA SCALE: Used mainly in Stirling and Kilmarnock. The cut is 240 yards, and 48 cut equals 11,520 yards, 240 x 48 gives 11,520. The number of such spindles in 24 pounds is the count of yarn.
13. ABERDEEN SCALE: The spindle is 14,400 yards and the number of pounds a spindle weighs is the count of yarn. #1 yarn has 14,400 yards to the pound.

YEANLING: From the Anglo-Saxon meaning a lamb or kid.

YEARLING: A sheep one year old or in its second year of growth.

YEARLING WOOL: Fleece taken from a sheep about one year old.

YELLOWING: 1. Some woolens and worsteds in time will, if the pattern has some white in it, turn rather yellowish in cast. This is because disintegration has set in due to slow chemical reaction that was initiated in the bleaching operation.

2. The tendency of heavily dressed cottons to turn yellow because of possible difficulties encountered in bleaching of the goods.

YERLI: Raised in the Smyrna area it is a fine staple, high grade wool which because of its varying quality is used in apparel, blankets and carpets.

YIELD: The number of pounds of actual wool fiber obtained from the scouring operation in woolen manufacturing. This amount, after the yolk, suint and some foreign matter have been removed, is called yield, but it is not possible to take out all of the foreign particles up to this point.

On a 100-pound scouring basis, yield will run from about 35 to 65 pounds; the better the grade of wool, the lower is the yield and the greater is the amount of yolk and suint removed.

YIELD FROM GREASE AND SCOURED WOOL: One pound of woolen cloth requires from 3.75 to 5.00 pounds of grease wool and about 1.50 pounds of scoured stock; worsted requires from 3.50 to 3.75 pounds of grease wool and about 1.50 pounds of scoured fiber.

YOLK: Fatty grease deposited on wool fibers through the pores in the skin of the sheep. It is comparable with natural oil in the head of the human being. Yolk gives nutriment to the wool fibers and aids growth.

When this natural oil ceases to flow in the head of the human being one becomes bald because nourishment is lacking. While sheep do not become bald, nevertheless, a poor flow of yolk, or none at all, will seriously injure the fleece and cause it to deteriorate.

Yolk is valuable in the drug and soap trades today. Because of the fact that it is readily separated from the suint in the scouring operation and in refining, it is used as the basis of ointments, salves, and cosmetics. Yolk has very fine healing qualities and this purified sheep "grease" appears in the form of lanum and lanoline in the drug trade.

YORKSHIRE GREASE: The grease recovered from the wool waste liquor in which wool has been scoured.

YUYAC: Adult animal from any llama type.

ZACKEL: Native to Hungary, this sheep is also raised in the Balkan area and Turkey. The animal has long, upright, tapering, spirally-twisted horns. The long, coarse, kempy fiber is used in rug manufacture.

ZALAN: A 3½-inch staple is obtained from this sheep raised in northern Morocco; the fleece is of the open type and is very uneven.

ZAMARRA: The shepherds of South America, southern Europe and northern Africa wear this sheepskin coat in cold weather.

ZANELLA: A compactly woven twill fabric made of cotton warp and worsted filling for use in the umbrella trade. Rayon or silk may be used in the filling, in place of worsted.

ZELLWOLLE: German generic term for all types of rayon staple.

ZEMBRANE: Moroccan sheep characterized by its open, long-stapled fleece.

ZEMMOUR: Moroccan sheep which produces a medium grade fleece.

ZEPHYR: Name given to a very popular yarn used in knitting trade. Another use of the name is that it implies a lightweight worsted cloth. The word comes from the Greek and means "light west wind." Zephyr ginghams are light in weight and of the tissue variety.

ZEPHYR FLANNEL: Name given to flannel of ordinary nature that has silk or rayon mixed with the stock in making the yarn.

ZEPHYR YARN: A worsted knitting yarn that is very soft and light in weight. Used for dressgoods, it comes in a variety of colors and yarns. Silk, rayon, combination and mixture yarns are often used in yarn of this name. Since man-made fibers and filaments have come to the fore in the textile industry, it is noted that they are often mixed with the natural fibers in making novelty yarns of many varieties. While zephyr yarn was originally of worsted, much of the yarn on the market today of this name is worsted combined with varying percentages of other fibers.

In recent years the yarn has been used in making woven fabrics in addition to knit goods.

ZIMARRA: The long outer garment worn by priests in countries where the cassock is worn for street wear. It is usually black and is of the same material as the cassock. This priest's "overcoat fabric" may be made of woolen or worsted yarn; the texture is compact.

ZIBELINE: Used for cloakings, coats, and capes in women's wear. The cloth is made from cross-bred yarns and the fabric is strongly colored. Stripings, sometimes noted in the cloth, work in very well with the construction and appearance of the finished garment. The finish is a highly raised type, lustrous and the nap is long and lies in the one direction. The cloth may or may not be given a soft finish and feel. — END

NOTICE TO OUR READERS:

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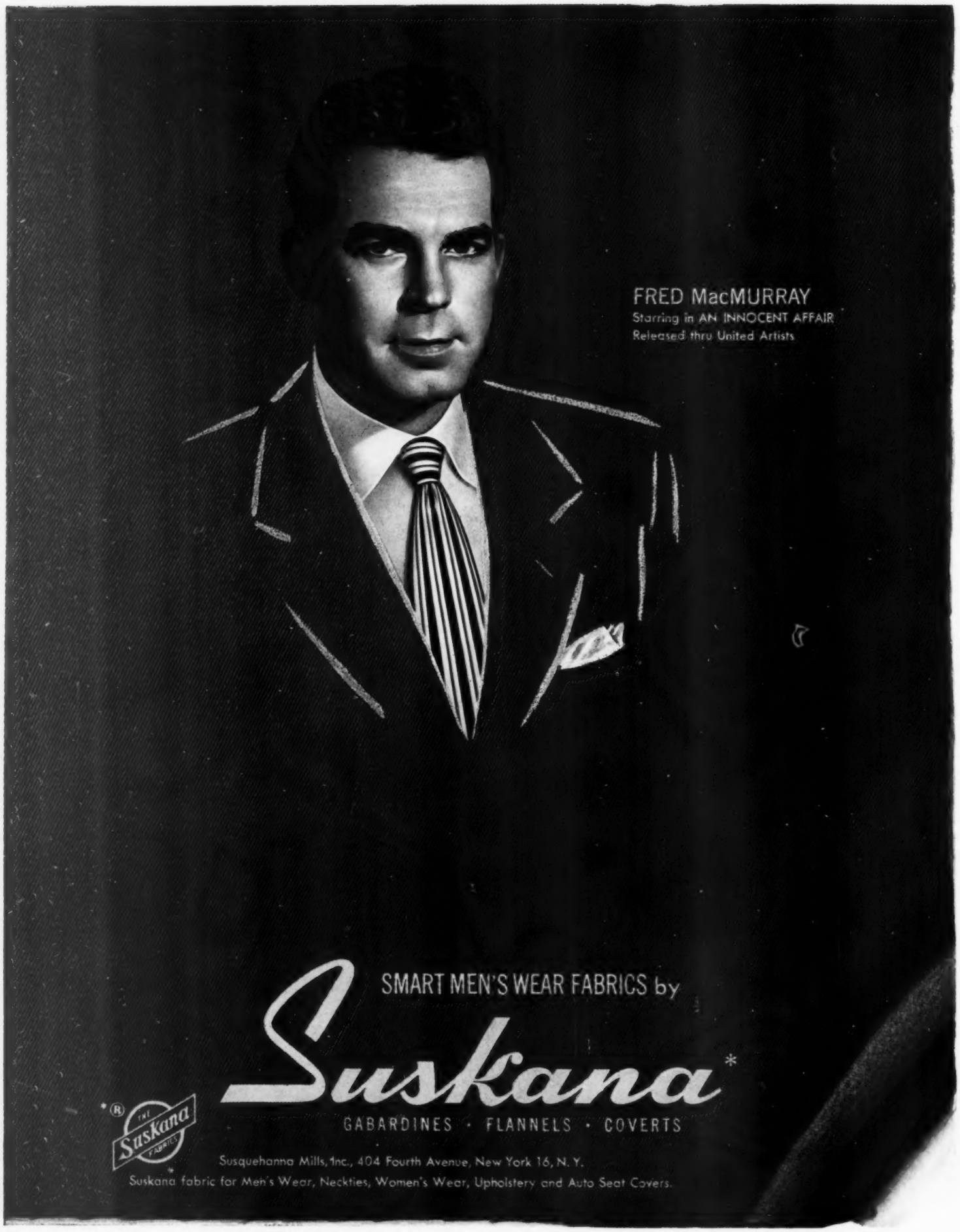
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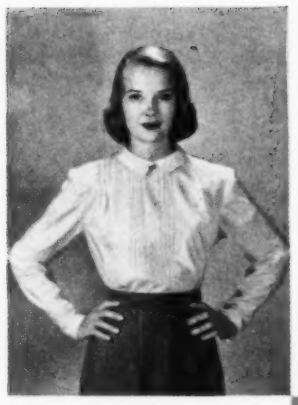

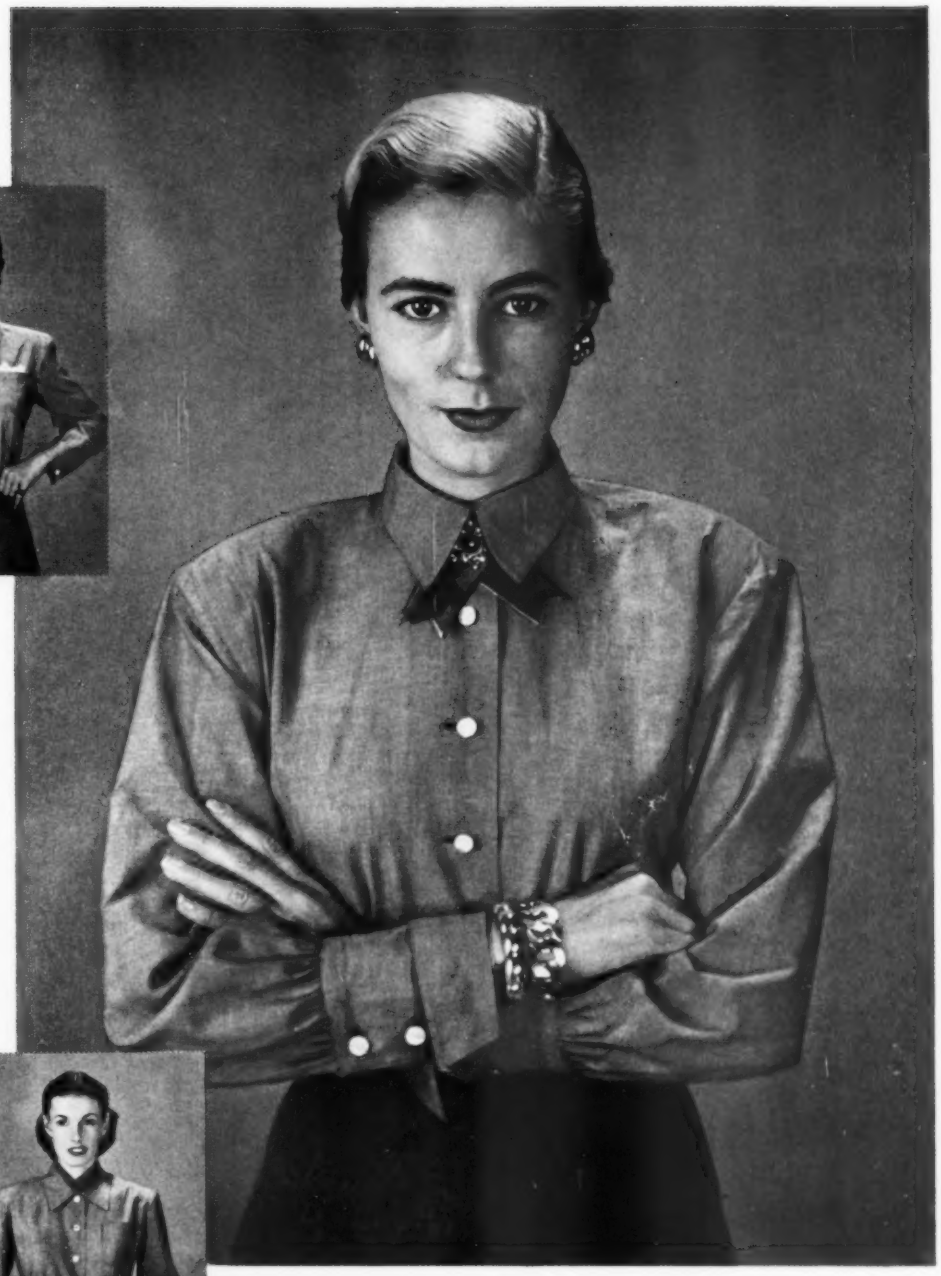

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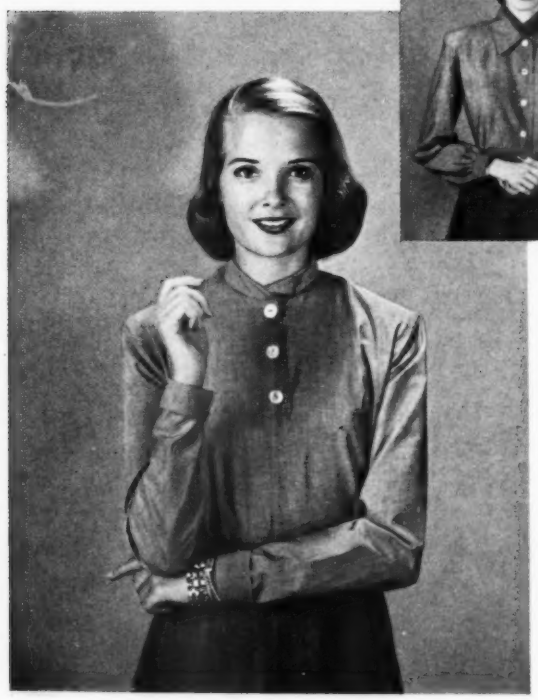

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